NUCLEAR REGULATORY COMMISSION

In the Matter of:

BRIEFING ON SECY-81-504, EQUIPMENT QUALIFICATION PROGRAM PLAN, AND SECY-81-603/603A, PROPOSED RULEMAKING, "ENVIRONMENTAL QUALIFICATION OF ELECTRIC EQUIPMENT FOR NUCLAER POWER PLANTS"

(PUBLIC MEETING)

DATE: November 10, 1981 PAGES: 1 thru 110

AT: Washington, D. C.

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UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

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BRIEFING ON SECY-81-504, EQUIPMENT QUALIFICATION PROGRAM PLAN, AND SECY-81-603/603A, PROPOSED RULEMAKING,"ENVIRONMENTAL QUALIFICATION OF ELECTRIC EQUIPMENT FOR NUCLEAR POWER PLANTS"

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PUBLIC MEETING

Nuclear Regulatory Commission
Room 1130
1717 H Street, N.W.
Washington, D.C.

Tuesday, November 10, 1981

The Commission met, pursuant to notice, at 2 o'clock p.m.

BEFORE:

NUNZIO PALLADINO, Chairman of the Commission
VICTOR GILINSKY, Commissioner
PETER BRADFORD, Commissioner
JOHN AHEARNE, Commissioner
THOMAS ROBERTS, Commissioner

STAFF PRESENT:

S. CHILK, Secretary
LEONARD BICKWIT, General Counsel
R. VOLLMER
D. ROSS
S. AGGARWAL
Z. ROSZTOCZY
E. CASE
MR. SCHAU

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P R O C E E D I N G S

CHAIRMAN PALLADINO: The meeting will please come to order.

The Commission meets this afternoon for a briefing by the staff on two separate but ultimately related topics. The briefing will cover SECY-81-504, Equpimant Qualification Program Plan, and SECY-81-603 and 603A, Proposed Rulemaking on "Environmental Qualification of Electric Equipment for Nuclear Power Plants."

With regard to SECY-81-504, the Equipment Qualification Plan, the staff sent to the Commission on August 20 of this year a broad program for qualification of equipment. The program would include both electrical and mechanical equipment and would require qualification for environmental, seismic, and dynamic conditions.

The Commission deferred action on this plan pending further discussion.

With regard to Proposed Rule on Environmental Qualification for Electrical Equipment for Nuclear Power Plants, SECY-81-603 and 81-603A, the staff has sent forward a proposed rule with four versions in response to various Commissioner comments for environmental qualification of electrical equipment.

Over the years, the NRC has used a variety of methods to ensure that the environmental and qualification

requirements are met for electrical equipment important to safety and the intent of this rule would be to codify the requirements we finally decide upon.

I am going to ask the EDO to introduce the briefing and to carry forward with appropriate questions as they are developed by the Commissioners. Does anyone else have any opening comments they want to make?

All right. Why don't we proceed, then?

MR. DIRCKS: Mr. Chairman, what we would like to do is concentrate - after a brief background history that Dick Vollmer will do - we would like to concentrate the Commission's attention on the proposed rule and the latest version of that paper, 603A, that contains the four approaches. At the outset, there are three versions in there.

COMMISSIONER AHEARNE: No. 603 contains three versions.

COMMISSIONER AHEARNE: Yes, 603 contains the first version.

COMMISSIONER AHEARNE: The 603A only has three versions.

MR. DIRCKS: What we did was line out four. For completeness' sake we have outlined the versions in there. What we would like the Commission to do is look at that first, that version. The one we would like the Commission

to consider is the one that basically takes the Commissioner's Order of May 19, 1980 and incorporates it into a rule, and then adds the date that was discussed in the Chairman's memo.

MR. FOUCHARD: Mr. Chairman, could you delay just a moment? The PA system is off and the people in the back cannot hear.

CHAIRMAN PALLADINO: All right, let us delay a minute.

MR. DIRCKS: Let me just add, what we want to do is look at the rulemaking first. Dick Vollmer will give us some background of how we got where we are today. Dave Ross will discuss the rules, the versions of the rules contained in 603A, and then Dick will take up whatever time is left on the approach to the program plan.

But essentially what we need, what we would like to have, is a decision on the rule and then we can go back to see what the effect of that decision might be on the program plan. Dick?

MR. VOLLMER: I will take it from here. Thank you, Bill.

If we could have the first slide, please. As Bill indicated, the agenda centered around the rulemaking because, certainly what is decided on the fourth bullet will affect the program plan description to some extent. So, if

we do finish with the rulemaking and we have time to talk about the plan, we can modify it to somewhat fit the rulemaking decision.

The program plan description that I have outlined here is not exactly the one that you find in the August 20, 1981 submittal, the August 20 submittal which was developed beginning the end of last year.

I think that certain things that we have learned in applying the requirements of environmental qualifications, electrical equipment, harsh environments, we can learn some lessons there to do a more effective job in the rest of the work that we have to do.

So, what I would like to do first, going into the next slide, background and scope, is briefly update you on the requirements and what the objective of the overall approach of the staff is, and a summary of where we are today before we talk about the rule.

On the background and scope. tTe equipment qualification requirements basically are derived from the items that you see up on the board. It basically says that structures, systems and components that are important to safety need to meet the required safety functions while withstanding the effect of natural environments and while withsstanding the effect of accident environments.

That basically is a summary of what we find in the

GDC-1, 2, 4 and 23.

Appendix B to Part 50 states in essence, in part, that equipment, structure of systems and components and equipment in power plants need to be able to function in the general environments and need to be tested to demonstrate their qualification, or tested to demonstrate their capability of meeting design requirements.

Paragraph 5055(a)(h) is a first introduction in the regulations to IEEE-279 which discusses protective system qualifications and says that it must be qualified to withsstand environments that are encoutered in normal and accident operation.

Lastely, CLI-8021, Commission memo and order of May 23, 1980, which defined the Commission's requirements for meeting the general design criteria for safety-related electrical equipment in accident environments. Basically you told us then to use the DOR guidelines and NUREG-0588 as appropriate in terms of the type of plant that we were looking at for the operating reactors and implementation on the near term, and of course that we build in the Category 1 requirements in IEEE, 3-23-1975 for newer plants, starting with Comanche Peak.

So, I think we have in essence all of the requirements well defined, starting with general design criteria and ending up with the more specific NUREG-0588,

associated regualtory guides, and associated industry standards, and the attempt here is to put all these together in a fairly well-defined program that can meet the Commission objectives and somehow get the job done as efficiently and as expeditiously as possible in the operating plants.

On the new plants we are applying pretty broadly all the guidelines for seismic and dynamic, and environmental qualification of equipment, and we will touch on that a little bit later when we talk about the rulemaking.

COMMISSIONER AHEARNE: Dick, when you say the new plants, you say "for the new plants we are applying," what do you mean by new?

MR. VOLLMER: The plants that we are licensing now for an operating license, that we have been coming forward to the Commission with, we have been reviewing them to the Category 2 requirements of NUREG-0588, and we have also been reviewing them to the standard review plan as it refers to the seismic and dynamic qualification of electrial and mechanical equipment.

So, we do have a pretty broad base there. We are achieving the review objectives in these areas. And then, starting with - I think it is the Comanche Peak Plant - we will be requiring, are requiring, that they meet the Category 1 objectives for environmental qualification, which

means sequential testing and a higher level of qualification that we are looking for for Category 1 requirements which, incidentally, is what the Commission asked that the staff require licensees to do for replacement parts even on old plants unless there was a good reason that it could not be done.

Of course, in many cases we find that a good reason is that the parts just are not available to meet that qualification. I sort of covered the next item, but I will go over it briefly.

CHAIRMAN PALLADINO: Can I ask you, Dick, are you setting forth requirements, are you requiring them to meet specific seismic and dynamic effects now on new plants?

MR. VOLLMER: Yes, that is right.

CHAIRMAN PALLADINO: And which ones are these?

MR. VOLLMER: We have in our standard review plan, I think it is 3.9 and 3.10, Regulatory Guide 1.100, we have a fairly broad basic requirement for seismic and dynamic qualification which implements in the case of electrical equipment the IEEE- 344 standard.

COMMISSIONER AHEARNE: Which one?

MR. VOLLMER: Depending on the vintage of the plant, Diablo Canyon, for example, that vintage would have required the earlier version, but they did commit to meet, except for a few areas, the higher, the 1975 standard.

COMMISSIONER AHEARNE: And there is equipment that can meet that?

MR. VOLLMER: Well, Zoltan, what would you say is the extent to which it is being met?

MR. ROSZTOCZY: Yes, the dividing line has been drawn in the standard review plan when it was issued in 1975. So, six years ago it was issued through the dividing line. The dividing date is a 1972 date. I believe it is a CP application date but it is tied to 1972.

So, the plants which have recently been licensed, they were still under the old '71 version of 344. The first plant with 344-75 did not come up for licensing yet. It will be coming up, I think, next year.

COMMISSIONER AHEARNE: The specific question I had though was, are we finding that there is equipment that meets that qualification?

MR. ROSZTOCZY: It is our understanding that the equipment which is being tested now is being tested to the new requirements, and we would expect that most of that equipment is going to pass those tests. There could be some cases where you might find failures and then you go back and correct them.

COMMISSIONER BRADFORD: Zoltan, this is just the seismic equipment, this is just the seismic qualification, or is this the entire set of new requirements; are we

talking just about seismic, then?

MR. ROSZTOCZY: My comments were really, I think, to seismic. It would be somewhat similar to the environmental also. We are seeing more failures in the testing process in the environmental area than in the seismic area.

MR. VOLLMER: Starting, as I said, with Comanche Peak, they should be the Category 1 requirements of NUREG-0588 unless there are testing problems and difficulties in actually achieving qualification. But that is the first plant that is aimed toward meeting that qualification.

COMMISSIONER AHEARNE: And that is what, the full sequence of 344-75?

MR. ROSZTOCZY: It is interesting that both deadlines are tied to a '72 date, the 323-74 and the 344-75, these two standards. But those due dates are not identical. So, there are a few plants - I do not know how many but probably just two or three - in between which have to meet one standard, I think it is the 323 standard, they have to meet the new one. But they do not yet have to meet the 344.

After those few plants, from there on every plant must meet both.

COMMISSIONER AHEARNE: Including the sequential

testing?

MR. ROSZTOCZY: Yes, the sequential testing is in 323 and thus required for Comanche Peak and every plant after Comanche Peak.

MR. VOLLMER: To briefly get into the scope of the equipment qualification effort itself. It includes electrical and mechanical equipment in accident environmenta, seismic and dynamic effects, and mild environments. The mild environments being those environments expected to be seen in the case of failures in the plants, ventilation system failures in key areas that would cause the temperature of the area to go up much higher than it would normally be expected.

COMMISSIONER BRADFORD: Dick, what is the breakdown between electrical and mechanical in terms of the total amount of work to be done? If the electrical equipment problems were all solved, how big a proportion of the total would that be?

MR. VOLLMER: I think on the newer plants, current day, it is my feeling that we are farther along in terms of the mechanical equipment meeting seismic and dynamic effects than we are on electrical equipment meeting their full environmental envelope. Is that what you are looking for?

COMMISSIONER BRADFORD: No. Is there a problem also with regard to mechanical equipment and accident

environments?

MR. VOLLMER: In some cases, yes. In some cases the operatiblity of valves or valve operators in temperature and steam environment needs to be demonstrated, and some of those have not been demonstrated.

COMMISSIONER BRADFORD: Let me back up a step. I really have never focused much on mechanical equipment. The Commission's attention has really been pretty heavily on electrical. Has there been a program going on sort of in parallel with the electrical equipment program that has focused on mechanical equipment, and what is the extent of the problem?

MR. VOLLMER: Well, there has in two ways.

COMMISSIONER BRADFORD: What are the deadlines involved in that?

MR. VOLLMER: Zoltan can pick up on that. The two ways are, we have done certain work on the SEP plants on mechanical equipment and seismic qualification; and certainly we have a fairly broad review requirement on plants that we are currently licensing.

But if you look back to the older plants, there are questions on mechanical equipment as well as electrical equipment as to the adequacy of the environmental and seismic qualification.

I think in my own judgment the environmental

qualification for mechanical equipment would be less of a problem in scope because in many instances mechanical equipment can almost a priori function in some of the adverse environments. Zoltan, do you want to comment?

MR. ROSZTOCZY: On the mechanical equipment, originally when we put together the program plan we planned to do it the same way as electrical, and it was supposed to start this past summer.

COMMISSIONER BRADFORD: When did you put the program together for mechanical equipment?

MR. ROSZTOCZY: We put the program plan together approximately a year ago, you received it last August. This was calling for an issuance of the equivalent, the I&E bulletin, for mechanical equipment and those are for the seismic qualification.

After you had received the program plan, then we received a message to hold back on those until you had an opportunity to discuss this with us.

So, a systematic program equivalent to the electrical one has not started for the mechanical activity. It is our estimate that that program would be significantly smaller than the electrical and environmental area. We think the electrical was the larger part and the mechanical would be the smaller part.

However, we do have a few secific programs going

on in the mechanical area. These are items which have been picked out either through operating experience coming from the operating reactors or through the TMI action plans. Examples of these are the purge vats. We are looking at the purge vats as a separate program. It started back, I think, in '78 and we are still working on it.

We have another program which is on deep draft pumps. We started with the problems at North Anna and developed from that one, and we have a few other ones like it. So, there are individual programs on selcted subjects. But to look across the board, we do not have one.

This is, by the way, the only area where we do not have a program for the near term.

If you go to the seismic one and you look at seismic -- let me just go separate to seismic. In the seismic area the mechanical equipment is probably comparable to the electrical and in the dynamic area we would expect that there will be more work on the mechanical equipment than on the electric because these are the dynamic loads during an accident like on the purge vats, the blow-down loads --

CHAIRMAN PALLADINO: But you think you did make an important clarificatin there that the broad equipment qualification program plan has still not been approved by the Commission, although you are proceeding, I gather, with

some pieces of it.

MR. VOLLMER: I think we are proceeding on licensing new plants with a fairly broad program. I think the program plan - not in its entirety - but the program plan deals with the rulemaking and qualification testing, and research aactivities. I think for new plants we were applying pretty well currrent, up-to-date standards in all these areas.

MR. ROSZTOCZY: We are proceeding with special parts of the program which fall under some other approved program like the TMI action plan; we are proceeding with those.

CHAIRMAN PALLADINO: I understand that.

MR. ROSZTOCZY: The systematic -- of this which was proposed in this program plan is on hold at the present time, and we are waiting for your guidance on how to proceed on this before we proceed with it.

Our present-day thinking would be that it is probably unnecessary to have interim requirement of first, separately, final requirement later, and maybe at once that process will be back.

CHAIRMAN PALLADINO: While there has not been guidance yet on the broad program, you are seeking some specific guidance or actin on the electrical.

MR. DIRCKS: Yes. I think that is why it would be

good to get to the rule so we can move on then. Once you take action on the rule, then we will have a pretty good idea which way to go on the plan.

MR. VOLLMER: Let me briefly go over the next slide. That is just really the objectives that we are trying to achieve in terms of the equipment qualification program itself, and basically the assurance that we are looking for is that all safety-related equipment in operating and new facilities is what we call "qualified."

Now, we go bck to GDC, we are talking about equipment important to safety. So far we have been talking about safety-related equipment and one of the things we will have to talk about later on is whether or not we want to bring the broader class of equipment important to safety --

COMMISSIONER AHEARNE: Could you, at least to help me, draw a distinction? One of the difficulties I have had in working through a lot of these papers is to get clear in my mind what equipment you are addressing.

MR. VOLLMER: Well, the safety-grade or safety-related equipment in the electrical sense is usually the Class 1E equipment; in the mechanical and seismic --

COMMISSIONER AHEARNE: Let's just stick with the electrical. I thought that you had Class 1E plus.

MR. VOLLMER: Well, yes.

MR. AGGARWAL: That is correct. I have a

viewgraph, and as I proceed with that, I will be happy to discuss it.

COMMISSIONER AHEARNE: I will defer that.

MR. VOLLMER: We will pick it up. But the objective would be to review equipment in operating facilities in the broad sense to identify deficiencies, to develop criteria and review procedures. Both of these are quite important because we do not want to embark on any review program unless we have a well-defined criterion and review procedures.

The program plan, broadly, talks about the EQ rules and regulatory guides; it talks about development and technology, for example, testing that is currently going on in a number of areas at Sandia in support of the rulemaking, and in support of development of criteria.

We have some already approved independent testing that has been approved by the Commission previously, that has been accomplished under I&E's umbrella.

We also have proposals for accreditation of programs for test labs and then broadly to fill out that, once these are in place, we would need to apply whatever appropriate enforcement actions need to be applied for all of that equipment as well as developing or applying current criteria for the licensing of new facilities.

So, as I said, the latter, I feel, is pretty well

in hand, and it is a number of the issues dealing with how we apply, and dates at which we apply these requirements to operating plants are yet unset.

In the next slide the actions to date that we have reviewed. The submittals by the licensees that were required by the Commission memo and order. We received these on November 1. We issued safety evaluation reports.

COMMISSIONER AHEARNE: On all of them?

MR. VOLLMER: All the safety evaluation reports were out by early June. I think unless there are a couple of exceptions we have received a great majority of responses by the licensees in which they have given us justification of interim operation and responded to our request for qualifications.

We sent these to Franklin Research Institute. They have screened them. We are currently setting up a plan for the evaluation of the submittals. First we will look closely at the justification for continued interim operation to assure ourselves that that is satisfactory. Then we will do some of the more detailed review, and when this is done, whatever date the Commission decides these criteria have to be implemented in the rulemaking, we will set the end date for the environmental qualification and safety-related electrical equipment.

COMMISSIONER BRADFORD: Are there licensees, Dick,

from whom you still do not have what seems to be a satisfactory submission on justification for continued operation?

MR. VOLLMER: I think it is a spectrum of justifications. Some of the justifications are not well supported on a technical basis. Some of the information is not as responsive as we would like it to have been to our safety evaluation reports. We are working with the individual licensees to come up with the best means of pulling that back together. We want to get into an iterative process, again.

COMMISSIONER BRADFORD: With regard to mechanical erquipment, you are not as far down the road there, I take it. One of the points of justification for continued operation with regard to electrical equipment is that the critical items have been identified and have been replaced.

I take it we cannot say that about mechanical equipment.

MR. VOLLMER: I do not think we can.

MR. ROSZTOCZY: That is correct. Wer have not asked for information on mechanical equipment and we have not reviewed any.

MR. VOLLMER: So, only in the context of the original licensee basis, in most the plants these items were required to operate in these environments, I think most

mechanical equipment. In my view there are isolated examples, but a lot of the mechanical equipment probably would not fail under short-term environmental conditions.

The seismic event is something that we will get into a little bit later in the rulemaking, as to how we can cost-benefit that particulr requirement, take a look at what the real safety needs are in that area.

COMMISSIONER BRADFORD: Is the history on mechanical equipment similar to that on electrical equipment, that is, a general commitment pre-1970 to install high industrial quality?

MR. VOLLMER: I would say it is broadly the same, yes.

COMMISSIONER BRADFORD: A more general standard, and then a still more specific one.

MR. VOLLMER: Yes.

COMMISSIONER BRADFORD: Are the dates similar as well? That is, is Comanche Peak again about the generation of plant at which the more specific standard applies?

MR. VOLLMER: I will ask Zoltan.

MR. ROSZTOCZY: We do not have as many and as well established standards in the mechanical equipment area than in the electrical. IEEE has a reputation of going forward and developing standards relatively fast. The ASME standards relating to mechanical equipment, a number of

those like standards for pumps and another one for vats is still in the approval stage. So, it has not been issued yet.

Because of this we do not have issued industry standards to the same degree as we had in the electrical area.

COMMISSIONER BRADFORD: I see, so there is no equivalent to the IEEE 1974 standard in the mechanical area yet.

MR. ROSZTOCZY: There is one for pumps, there is one for vats, but neither of them has been issued in final form. Then there are a number of others.

CHAIRMAN PALLADINO: Dick, could I ask you, with regard to the electrical equipment, have we asked the utilities to provide criteria for continued operation pending final equipment qualification?

MR. VOLLMER: Yes, we have.

CHAIRMAN PALLADINO: Was there a deadline, did you say?

MR. VOLLMER: Their deadline on that was to submit that within 90 days of receipt of our safety evaluation report in which we identified what equipment we felt was not qualified.

CHAIRMAN PALLADINO: You made some comment on the extent to which those dates were being met.

MR. VOLLMER: I think they have all been met.

CHAIRMAN PALLADINO: They have been, that is good.

MR. VOLLMER: There may be a couple of requests for exemption, but basically they have primarily been met in terms of dates. But all licensees have not been as responsive in terms of giving us good, technical justification as to why continued operation is safe in light of certain deficiencies. That is what we seek before we can feel comfortable about going ahead on a longer-term basis for final qualification of equipment.

COMMISSIONER BRADFORD: That has been a sore point for some time throughout the whole electrical equipment area. My own sense is that we keep feeling we have asked for these justifications and then not getting them.

CHAIRMAN PALLADINO: We are getting them, but they are not always to our liking.

COMMISSIONER BRADFORD: That is right. But all I meant to indicate was that it does not start with that 90-day period, there have been efforts to get them before that. The ones we got in that form were not satisfactory. So, then we went to the 90-day period. Some of them now apparently are satisfactory, others are not.

But that was not the first time the question was presented.

CHAIRMAN PALLADINO: All right, do you want to go on?

MR. VOLLMER: All right. Finally, there was a petition for the extension of the deadline, and as part of the action on the rule we provided - it must have been a month or so ago - a briefing to the Commission on proposed extensions to the deadline, and turn it over to the rulemaking now.

MR. ROSS: Before asking the task manager, Satish Aggarwal, to go through his presentation I wanted to point out with respect to questions in the following three areas that there are three additional research spokesmen in the audience. Involved in the future quantification of the risk reduction that might attend equipment qualification implementation is Gary Burdick, who is a branch chief in the Division Risk Analysis.

Responsible for developing of the mechanical half of qualification rulemaking is our branch chief Bill Anderson in the Division of Engineering and Technology.

Thirdly, the acting branch chief of the Electric Branch, Don Sullivan, who is also involved in the development of IEEE-323.

The task manager, Satish, will discuss the various alternatives that have developed in the last few months; some things that the staff has to decide; some things the Commission has to decide, and some pros and cons on Alternatives 3 and 4.

Now, there was a specific question about what was embraced in the various concepts of safety-grade, safety related Class 1E, important to safety. Wer have a backup slide if the projectionist would find the stack marked Aggarwal, and it is slide No. 1.

MR. AGGARWAL: Mr. Chairman, at the outset I would like to point out that we met with the Electrical Systems Subcommittee of the ACRS on July 22, 1981. At that time, the scope of the proposed rule included all electric equipment important to safety.

If you will focus your attention to the pi on the left side, all the equipment in the whole pi and basically that said, all electric equipment important to safety as defined in Appendix A of 10 CFR Part 50.

The subcommittee provided some comments on the issue of this. The scope as we are presenting it to you, sir, and also to the Advisory Committee on August 7, '81 does not include all electric equipment important to safety. It includes that portion important to safety which is generally referred to Class 1E equipment in national standard; and that what is shown on the slide as 50 Grade or 50-Grade related.

We have also included some additional non-Class 1E equipment and system with failure under extreme environmental conditions could prevent a satisfactory

accomplishment of safety functions by the accident mititgating equipment.

For example, Regulatory Guide 1.97 was issued, which includes post accident monitoring equipment and that will be covered by this proposal, and that is that small shaded portin as shown here.

COMMISSIONER AHEARNE: Satish, in previous rules - I can think of one in particular - we have had difficulty, I think jointly between the NRC and the industry, and sometimes between NRC and the public, being clear what elements we are covering.

Now, is this terminology of safety-related that you are introducing, is that something that is reasonably commonly used is it well understood by these various groups, or is this a new construct?

MR. AGGARWAL: Sir, we are not introducing any new concept and we we are nothing to do within the rulemaking process was to the effect safety related or safety grade. What we have done, we have provided within the scope of the rule the definition of Class 1E equipment which is taken out of the national standard.

COMMISSIONER AHEARNE: I thought that there was a phrase when you went beyond the Class 1E.

MR. AGGARWAL: That is correct, and that covers it.

COMMISSIONER AHEARNE: You say equipment that it

seems that the additions that are otherwise essential in preventing significant release of radioactive material to the environment.

MR. AGGARWAL: No, sir, that is a part of IEEE's standard definition.

COMMISSIONER AHEARNE: But what is picked up by that group is well understood.

MR. AGGARWAL: That is correct.

MR. ROSS: Commissioner Ahearne, let me amplify this on two parts. I believe if you look at the shaded diagram on the left, the thickness of the cross-hatch diagram varies, I believe, from plant to plant. Dr. Astoci could, I am sure, give examples where the same component might be in on one case and out on another, depending on the case-by-case aspect.

But on a generic view, this was an issue in the TMI-I restart. So, I will avoid the merits of it. However, we did write a generic philosophical paper on the subject about a year ago, on these terms. We sent it to the ACRS, we discussed it with a subcommittee of the ACRS, and I believe in terms of background information, perhaps for use in the ANR on mechanical because that is where we intend to address the issue, it might be worth more discussion.

We do have about a 20-page philosophical paper on it, and I believe the industry is generally familiar with it

as a result of bringing it out about a year ago.

COMMISSIONER AHEARNE: Well, part of my confusion stems from reading the transcripts of some of the ACRS meetings in which there seemed to be some debate between some members of the ACRS and the staff as to whether or not this was a clearly defined subset of equipment.

MR. ROSS: I think if you will let Zoltan give a couple of examples you will understand that the cross-hatch area is not clearly defined.

MR. ROSZTOCZY: Probably the simplest way to explain it is that this definition that we are working with here, which covers the 1E which was defined in the original FSAR of a plant, plus a few extra pieces, is the same definition that we used in the I&E Bulleting 7901B and we are enforcing right now.

In other words, we are talking about the same equipment that fell under the bulletin, nothing more and nothing less.

COMMISSIONER AHEARNE: You have to realize, Zoltan, that does not give me a completely warm feeling, therefore we all understand it.

MR. ROSZTOCZY: In the sense how it should give you a little warm feeling is that by last November, November of 1980 - so a year ago November - each utility supplied us at least with what they considered constituted the

safety-related equipment for their plant. We reviewed that. They issued an SER last spring when we either said that we agreed with your list, or we said to add something to the list, or if some portion was missing, said provide this missing portion.

We received now the response to that. So, through the on-going review --

COMMISSIONER AHEARNE: You have an iteration process which you hope is converging.

MR. ROSZTOCZY: That is correct.

CHAIRMAN PALLADINO: Dennis, I have a basic question. You said this rule does not cover all items important to safety, and the rule says that. Then you say it will cover Class 1E items plus these safety-related items.

The basic question I want to ask is, why? Why don't we cover all the items important to safety, is that just the problem of getting to all of them, or what are the implications?

MR. ROSS: The general feeling is that it picks up a lot more equipment.

CHAIRMAN PALLADINO: What picks up a lot of equipment?

MR. ROSS: The "important to safety" picks up more equipment and we were not able to discuss at this time how much it would cost and how much risk reduction. See, we had

no value impact information. Our intent was to pick up this information as part of the mechanical rulemaking procedures.

So, we would specifically ask as questions in the advance notice of proposed rulemaking questions like, "What would it cost to qualify this and tell what equipment we are talking about, and how would you quantify the risk reduction."

CHAIRMAN PALLADINO: This Item 504, would that be part of it?

MR. ROSS: On page 4 of the original SECY-603 we mention near the top that the advance notice of rulemaking which we hope to have down here next month will pick up the scope, would have questions on expanding the scope of equipment, both in electrical and mechanical.

But it was because we were unable to quantify the value impact at this time was the reason why we did not include it in the scope of the rule.

CHAIRMAN PALLADINO: This says you are going to have an advance notice of rulemaking. Is this intended to be that advance notice?

MR. ROSS: No. The advance notice will be a very thick, formal document that should be down here next month, that is the schedule.

CHAIRMAN PALLADINO: Thank you.

MR. ROSZTOCZY: May I add one word to that? When

we drew the line, the line, the definition between those two parts, the whole circle which is the important to safety and the safety related one, the safety related contains the equipment that is needed to accomplish some specified important functions, namely to shut the reactor down, provide continued core cooling, and maintain the radioactive material within the containment.

The equipment outside of the pi shape could be helpful for the handling of the plant and may be very useful for certain things, but it is not an absolute necessity. The qualification is being limited to the equipment that is absolutely necessasry to accomplish these functions. The rest does not need to be qualified.

CHAIRMAN PALLADINO: It is important to clarify that.

COMMISSIONER AHEARNE: Just as a minor aside, I would have thought that important to safety would be a subset of related to safety.

MR. ROSS: Commissioner Ahearne, this was a rather heated discussion that we had with the ACRS as to what would be a subset of what. To a degree we tried to stay within Appendix B, and that was what constrained us.

CHAIRMAN PALLADINO: I thought it was important to ask the question primarily first to make sure I understand it, and secondly to make sure that the point is clear to

others.

COMMISSONER GILINSKY: Tell me again what the initials in the parentheses are?

MR. AGGARWAL: Sir, this was taken out of the International Atomic Energy Commission.

MR. ROSS: The QAB is Qualifty Assurance Branch. In the shape of the left where you see safety related parentheses, that is Quality Assurance Branch, a branch in NRR.

MR. VOLLMER: It is covered under Appendix B Quality Assurance Program, and the important to safety. One other thing I might add is that not only have we not defined all the things that are important to safety, but we also have not, obviously, then defined how important they are to safety. So, that is something that really remains to be done in a broad scale both for quality assurance as well as for things like environmental qualification.

MR. AGGARWAL: Sir, at this time I would like to present to you the four alternatives of the rulemaking. May I have the first slide, please?

Alternative 1 is basically in response to the Commission's memorandum and order CLI-80-21, dated May 23, 1980. It covers environmental qualification of electric equipment. It applies to all nuclear power plants, but it does not cover seismic and dynamic qualification.

It does incorporate extension dates, as recommewnded by the Chairman, which are keyed to the refueling outage.

CHAIRMAN PALLADINO: May I ask you a question?

MR. AGGARWAL: Yes, sir.

CHAIRMAN PALLADINO: You said it does not cover seismic and dynamic qualification. Could you add your reasoning as to why?

MR. AGGARWAL: Sir, Alternative 3 covers the seismic and that is an answer which I would prefer later to give.

COMMISSIONER AHEARNE: Since the Chairman raised it, let me add the reason I raised the question was really, Satish, you pointed out to me that it would be useful to go back and re-read the IEEE document, which I did.

At least one Commissioner, maybe the others understood, when we put out the order back there, 8021, certainly, I had not appreciated that when we were making reference to these IEEE documents that we were also at the same time pinning down so specifically a sequential list of testing, and in particular we were also defining very accurately what kind of seismic testing was required.

I can recall some conversations at this table at the time we were going through that order asking, "Now, are we sure that there is equipment that will meet these

standards," and being assured, "Yes, there was equipment that would meet these standards."

Well, I just wanted to call out for those who like me had not gone back and read these what, when we say that it now must meet IEEE standards, what it means. In particular I felt that the order could at least be read as specifying a requirement on the seismic qualification.

If we did intend to be explicit on that, I thought that we at least ought to be addressing it.

MR. AGGARWAL: That is correct.

COMMISSIONER AHEARNE: That is the reason I asked the question.

CHAIRMAN PALLADINO: I am not sure that Version 1 or Alternative 1 clearly states that it does ot cover the seismic and dynamic considerations.

MR. AGGARWAL: In the rulemaking rule it is correct, and the title suggests that it only has the environmental qualification of electrical equipment. You will note the title of the Option 3, Alternative 3 is, "Environmental and seismic qualification of electric equipment." This is how we are trying to pin them down.

CHAIRMAN PALLADINO: I am still coming back, do you feel that Version 1 clearly indicates that the seismic and dynamic qualification requirements of the IEEE --

MR. ROSS: Mr. Chairman, on page 5 of Enclosure A,

near the top, this is the basic document, the 603 document. We state that we are considering expanding of the rule to include seismic dynamic qualificstion and these matters will be the subject of a future rulemaking.

So, I think the statements of consideration take care of it.

COMMISSIONER AHEARNE: Well, I would argue that I think that you could use, if we went with this option, I would think a few more sentences to make it clear.

MR. ROSS: I would be glad to, sure.

COMMISSIONER AHEARNE: Because otherwise someone could be led down, go to the Reg Guides and then from the Reg Guides you lead to various IEEE standards, and it is not really clear.

MR. ROSS: We will fix it.

MR. AGGARWAL: I would just like to point out on Enclosure A, page 5 of the SECY paper 81-603, the first paragraph indicates -- I am sorry.

COMMISSIONER BRADFORD: Under Alternative 1, how long do the licensees have to submit justifications for continued operation?

MR. AGGARWAL: Ninety days after the rule becomes effective.

COMMISSIONER BRADFORD: And when would you guess the rule would become effective?

MR. AGGARWAL: Sir, at this time, if we go with the Alternative 1 or 3, it is my personal opinion that we can go with the final rule prior to June, 1982.

MR. ROSS: We are allowing 60 days for comment. So, you start adding on publishing in the Federal Register 60 days, then writing the final rule based on the comments and so on; and then 30 days effective after publishing.

COMMISSIONER BRADFORD: What is there about the approach in Alternative 1 that is so significantly different from what has gone before that we should be adding what in effect will be what, another substantial extension? I do not even know how to compute it any more, to a process that we have already been trying to bring to a close for well over a year.

If we were modifying the scope of what we were doing in some way, it might be different. But I must say my inclination is to say that people who have not submitted satisfactory justifications by now maybe have another 30 days, and then after that it is time for enforcement action.

MR. VOLLMER: I think all this Version 1 does is really codify what we are doing now and provide the rule as far as the extension date. I would agree that we are proceeding on the justification for continued operation quite separately from this rulemaking.

COMMISSIONER AHEARNE: One of my questions was

because I could not really find it explicitly said in the cover memo, are there any differences between the requirements of 80-21 which end up being the guidelines in 588 for category of plants, and then Category 1 and 2 within 588.

Is there any difference beween those rquirements and the requirements of the proposed rule?

MR. VOLLMER: Unless I have missed it, the answer is no.

MR. AGGARWAL: That is correct.

MR. ROSZTOCZY: I am sorry, there is one difference, the source term. The source term required for the relation calculations in the rule is something what you might call an updated source term including some of the facts observed from TMI which would produce larger source terms later out in time than the present one. That is the only difference.

COMMISSIONER AHEARNE: Could you point that to me?

MR. AGGARWAL: You will have to see that in the Regulatory Guide 1.89. It is not a part of the rule.

COMMISSIONER AHEARNE: It is not in the rule.

MR. ROSZTOCZY: It is in the regulatory guide.

MR. VOLLMER: So, that is something we could use staff judgment on.

COMMISSIONER AHEARNE: If I could follow up

Zoltan. So, that is then, let me see, I had a copy of revsion --

MR. AGGARWAL: That is at Tab 4.

COMMISSIONER AHEARNE: Tab 4, that is where that would be found. I gather you have to get this out at approximately the same time.

MR. ROSZTOCZY: Yes, and the statement, somewhere in the cover letter the statement is that those two together would take the place of the present package.

COMMISSIONER AHEARNE: Right. So, that is essentially the only change.

MR. ROSZTOCZY: Yes.

COMMISSIONER AHEARNE: Is that change likely to require much in the way of re-analysys?

MR. ROSZTOCZY: It would not require any for equipment which operates in the relatively early times like during the accident or shortly after the accident because that approach provides a lower curve early in the accident.

But the two curves cross over. So, equipment which is needed for a long period after the test would have to be qualified at somewhat higher value. Then you would have to go back and see what was it qualified. If it was already qualified higher than that, there is no problem. If it is not, then there might be some questions.

COMMISSIONER AHEARNE: Now, the current process

that we have under way which was based upon the initial going out getting information, the SER, the response to the SER, and now the Franklin review. What source term is that based on?

MR. ROSZTOCZY: It is based on the source term which was used previously and what we approved through the bulletin.

COMMISSIONER AHEARNE: It is not this one.

MR. ROSZTOCZY: No, it is at NUREG-0588, it has a supplement in it, or appendix in it, and it is described in the appendix.

COMMISSIONER AHEARNE: So, this is a different source term.

MR. ROSZTOCZY: This is a different.

COMMISSIONER AHEARNE: So, you would expect some additional analysis may be required.

MR. ROSZTOCZY: Yes, with the clarification it is only for those.

COMMISSIONER AHEARNE: Yes, certainly. Do you have any approximate estimate, is that a difficult, minor, major problem? The reason I am asking it, it speaks to this question that Commissioner Bradford has raised. If there really is no difference between what we are requiring or essentially little difference, then there is little reason to provide much greater amounts of time.

On the other hand, if what we are ending up requiring is a new analysis and new qualification of equipment, that is different. That is the reason for it.

CHAIRMAN PALLADINO: What is your conclusion? I only picked up halfway on your question.

COMMISSIONER AHEARNE: I don't kow yet. What I have been told is that there is one difference. That one difference is the source term and the source term's impact on equipment that is required for a longer time after an accident.

I am asking, what is their judgment as to whether the amount of re-analysis and potential requalification -- is that significant compared to what has already been done.

If the answer is no, it is not, it is a trivial change, then I would conclude there is little reason to give what is a tantamount to a further extension to meeting the deadline.

On the other hand, if it is a significant piece of new analysis leading to significant new requalification requirements on equipment, that would be good grounds. That is really my question.

MR. ROSZTOCZY: My judgment would be that, yes there is a potential that some equipment now might require additional analysis or might even require some additional testing. I do not think it would be very extensive.

At the same time, I think you should keep in mind that the regulatory guide does not necessarily have to go in the form of what it is right now. This will go out for public comment. This version was put in there as a suggested version because it incorporates certain things that had been relatively recently learned.

But we possibly would not have problems to go with the order approach that was used, especially since the overall question of source terms is still under rather lively discussion between the staff and the industry and other people involved.

So, one possible alternative is to keep the source term as it was in the regulatory guide for the time being. When the overall question of source term settles, maybe in a year, two years, three years, whenever it settles, then amend it if it needs to be amended.

COMMISSIONER BRADFORD: But this source term question, does it need to get tangled up in the broader one? I thought this was an adjustment made based on actual observations at TMI and was not a conjectural modification.

MR. ROSZTOCZY: It starts out with an arbitrary assumption that a hundred percent of the -- and 50 percent of the others, and so on, a hundred percent will be released, and that is arbitrary.

From there on they try to account for the

information that was learned from TMI, in what form, in what chemical form do they show up and how would they be distributed. As I understand it - and I am not expert on this - as I understand it, the question is that should you combine those two together.

You go to a realistic, more realistic approach on the first step and follow up with was was observed at TMI. You still could end up below the present requirements.

CHAIRMAN PALLADINO: May I make an observation? I am not sure I understand which of the respective dates you and Commissioner Ahearne and Commissioner Bradford are talking bout.

I thought Commissioner Bradford had raised the question as to whether or not we should extend the period during which utilities were to give their justification for continued operation, pending final equipment qualification.

COMMISSIONER BRADFORD: That's right.

MR. VOLLMER: I don't think we are extending that.

MR. DIRCKS: That is not extended.

MR. VOLLMER: That is not part of this rule.

MR. DIRCKS: That has not extended.

CHAIRMAN PALLADINO: Well, but I gathered that was the question he was raising. Then there is the question of whether we should extend the date for fulfillment of the whole qualification.

COMMISSIONER BRADFORD: I think they are extending it.

CHAIRMAN PALLADINO: Extending what?

COMMISSIONER BRADFORD: The date that the utilities have to justify continued operation.

CHAIRMAN PALLADINO: Now, that I was trying to follow, and I did not see the relationship.

COMMISSIONER AHEARNE: Right now, when do they have to submit their qualifications?

CHAIRMAN PALLADINO: I accepted that they may be doing that.

MR. VOLLMER: By rule you are right, the enforcement of that would not be by rule. It is already due.

COMMISSIONER AHEARNE: It is already due.

MR. VOLLMER: It is already due, and in most cases it has been received.

COMMISSIONER AHEARNE: Right now it is already due. The rule would say, "No, it is not already due."

CHAIRMAN PALLADINO: That's right.

COMMISSIONER AHEARNE: It is due in 90 days after the rule.

MR. ROSS: Adding up the calendar, it looks like it would be about the summer of '82, give or take a little bit.

CHAIRMAN PALLADINO: But it is an extension.

MR. ROSS: With these terms, yes.

MR. DIRCKS: But the final date remains the same.

CHAIRMAN PALLADINO: The final date for what?

MR. DIRCKS: The goal of final environmental qualification.

CHAIRMAN PALLADINO: I understand that, but I wanted to separate the two issues so that we knew which date we were talking about. We are in this version, I guess in each of these versions we are extending that date.

MR. AGGARWAL: That is correct.

CHAIRMAN PALLADINO: And there was a reason for doing that? I am just trying to pick up your point.

MR. AGGARWAL: The only reason I had for that was given to us by our legal departmewnt that you can only give a date after the rule becomes effective. You cannot give a date for completion prior to a rule being effective.

(Laugher.)

COMMISSIONER BRADFORD: Yes, but you do not have to get that issue tangled up in the rule at all, I do not think.

CHAIRMAN PALLADINO: At least we recognize that there is an extension.

COMMISSIONER BRADFORD: But from your point, or from the staff's point of view then, leaving the legal point aside, you would not be recommending extending that date to

July of '82.

MR. VOLLMER: No.

MR. AGGARWAL: No, sir.

CHAIRMAN PALLADINO: Except for one thing, I do really feel tht it is important for us to make quite clear I felt in this rule, I did not kow of all the complications we were going to get into, that it was important to state that we wanted the utilities to provide criteria or justification for continued operation pending the electrical qualification.

I wanted to see it in the rule because I thought that would firm up the requirement and make it clear. I guess what I did ont appreciate was that it would lead to extending the deadline.

COMMISSIONER AHEARNE: For example, it need not be 90 days.

CHAIRMAN PALLADINO: It need not be 90 days, no.

MR. AGGARWAL: That is correct.

COMMISSIONER AHEARNE: You can meet your legal requirement concern by making it effective the day --

MR. AGGARWAL: That is correct.

COMMISSIONER AHEARNE: It at least takes 30 to 90 days.

MR. AGGARWAL: If the Commission so decides, when we call for public comment, we can make that change.

CHAIRMAN PALLADINO: Well, I think you would still

have a legal problem, but I would have no problem bringing it down to 30 days.

COMMISSIONER BRADFORD: If we could maybe hold on that point until we have been through Alternatives 3 and 4 because I think the question gets more tangled if we decide that we want to pick up the seismic and dynamic qualification in the rule, then you do start getting to the point where the changes are significant, and there may be some good arguments for that.

MR. AGGARWAL: That is correct.

Mr. Chairman, going back to the Alternative 2, basically it is just like the Alternative 1, except the completion date is July 1, '83 as it is recommended by Commissiner Bradford.

COMMISSIONER AHEARNE: Alternative 1 is the second refueling outage.

MR. AGGARWAL: That is correct.

CHAIRMAN PALLADINO: The second refueling outage after March 31.

MR. AGGARWAL: That is correct.

CHAIRMAN PALLADINO: The first one is tying it to an outage so as to make it possible to fit in any modification in the plant.

MR. AGGARWAL: That is correct, sir.

COMMISSIONER BRADFORD: Is it true through all of

the alternatives that you can still qualify equipment by analysis alone?

MR. AGGARWAL: No, sir, only if the equipment was installed prior to May 1982, that is acceptable.

COMMISSIONER BRADFORD: And that is true through all four alternatives.

MR. AGGARWAL: That is correct, that is common in all four alternatives.

May I now go over to the Alternate 3. The next slide.

Mr. Chairman, the Alternative 3 is basically again, just like Alternative 1, except that it covers seismic and dynamic qualifications for plants currently in the operating license review process and all future nuclear power plants.

I do propose to present to you, sir, the advantage of deciding either Alternative 3 or 4 shortly.

With regard to Alternative 4, it is just like number one, but it does cover the seismic and dynamic qualification for all nuclear power plants operating, those in the pipeline, as well as in the future.

It is the staff recommendation that the Alternative 1 be approved. The staff is opposed to Alternative 4 since the complete value impact information to justify backfitting requirement of seismic and dynamic

qualification is not available at this time.

The staff is proposing that we cover this issue in the advance notice of rulemaking which will be forthcoming soon.

Staff will be willing to concede to Alternative 3, it basically codifies the existing practice in the area of environmental qualification as well as in the seismic and dynamic qualification.

At this time I would like to invite your attention to some decisions on principal issues that the staff made. The next slide, please.

Decision No. 1 which staff made was that at this time the scope of the proposed rule be limited to essential systems and equipment commonly referred to as Class 1E in IEEE national standards, and some additional non-class 1E equipment which I explaind earlier.

At pointed out earlier, that any extension to the scope to cover all equipment in Part 50 will be considered in the advanced notice of rulemaking.

It has been also pointed out that qualification of mechanical equipment will also be covered by the ANR.

Sequence testing, which is required under the IEEE-323-1974, will be required for all plants in the pipeline and future nuclear power plants.

It is the staff recommendation at this time that

this requirement be not imposed on the operating plants except for the replacement parts.

CHAIRMAN PALLADINO: Except for what?

MR. AGGARWAL: For the replacement parts.

COMMISSIONER AHEARNE: I guess what you are saying is that the equipment that needs qualification without sequence is acceptable, but if it does not meet the other qualifications then the replacement equipment has to also meet the testing by sequential.

MR. AGGARWAL: Sir, what I am saying is that any equipment that requires replacement in the future must qualify to the latest standard at that time.

MR. ROSS: Replacement being used in the term of, its predecessor was worn out, found to be unqualified.

COMMISSIONER AHEARNE: I hate to constantly ask for reassurance, but I must. You are confident that that provision can be met, that is, that there will be equipment qualified to that standard to be used for replacement.

MR. AGGARWAL: Commissioner Ahearne, at this time I might make a statement to clarify what really sequence testing means.

In early days when we were in the process of preparing a national standard, namely IEEE-323-74, prior to that it was industry practice that people take one prototype, go through the aging as required by the

standards, and then send the same prototype for the environmental qualification.,

They will take another prototype and then they will subject that to seismic testing, and if on both of them tests successfully were conducted, then it will be concluded that that equipment had met the intent of the IEEE-323-74.

At this time we know that it is logical to test the equipment in a test sequence which is covered by IEEE-323-74, namely that you use one prototype only and then you will subject tht testing in a sequence, namely aging, seismis testing, and then the environmental qualification.

It is my personal belief that if we impose as a requirement to do this sequence testing at this time to the operating plants, I do not believe that they can meet those requirements.

MR. VOLLMER: I think you asked if there are replacement parts available to meet the Category 1 requirements. The answer is no.

COMMISSIONER AHEARNE: Right.

MR. VOLLMER: Although the Commisson's May 23 memo and order said that replacement parts should meet the --

COMMISSIONER AHEARNE: I understand that.

MR. VOLLMER: I would like to go a little further. It said that unless there is good cause to the contrary.

Now, I might point out that --

COMMISSIONER AHEARNE: The good cause being that it is not available.

MR. VOLLMER: That is certainly one good cause, yes.

CHAIRMAN PALLADINO: Are the components available that would qualify if you don't consider they have to do it in a sequence fashion?

MR. AGGARWAL: That is correct, sir.

CHAIRMAN PALLADINO: It would be available.

MR. VOLLMER: In increasing number.

CHAIRMAN PALLADINO: You are not implying that the unavailability is due to the failure or the predicted failure of that equipment but rather that the testing had not been done.

MR. AGGARWAL: That is correct.

CHAIRMAN PALLADINO: Not necessarily.

MR. ROSZTOCZY: We have to be careful with that, that we have both of those. I think that first the question was, is the equipment available. The answer is that for many equipment types there is equipment available which is qualified to that. In other areas it is not available at the present time. There is a fair amount of on-going tests and the test program typically takes a year.

So, even if it is not available now, a year from

now you could have one if you send it out for testing.

CHAIRMAN PALLADINO: All right.

MR. ROSZTOCZY: So, you have some, yes; some, no.

The question is, what is the concern about this. There are two types of concerns. One of them is just the paper concern that the equipment is really very good, the only thing, the way it was tested it did not meet the current standard.

The second concern and recently is becoming more important is that some of the equipment when it is tested to the current standard, does not pass the test. When it does not pass the test, it does not necessarily mean that the equipment would not perform in the environment because the test by having in it accelerated processes like accelerated aging, the test is somewhat artificial, it will always be somewhat artificial because you try to do it in a short time what happens in the plant in 40 years.

It is not clear in some of those cases whether the failure is a result of the accelerated testing process or whether it is the result of the conditions that the equipment would see in the plant. This has to be sorted out, it takes a little time.

I mentioned that testing takes a year. It takes a year if everything works out fine. If they have these kinds of problems then it might take an extra half a year or maybe

takes an extra year before it is resolved.

Some our expectation is that there will be items and hopefully a few, which run into these problems and they might not be available at the time when it is needed under the proposed rule. That is why there is a clause there that in special cases we would consider exemptions.

CHAIRMAN PALLADINO: What I was trying to get at - I appreciate that, that was good information. But I was trying to understand, were there items of equipment that went through the sequencing testing and failed?

MR. ROSZTOCZY: Yes.

CHAIRMAN PALLADINO: So, it is due to both, as you said.

COMMISSIONER AHEARNE: My uneasiness is that we may be putting out, propose a rule which we know is not going to be able to be met and so we put in a clause to enable it to be waived, knowing that it is not just a few cases but it may be many cases. Is that likely to be true?

MR. AGGARWAL: That is a possibility.

CHAIRMAN PALLADINO: Are there any that have undergone sequence testing in the past?

MR. ROSZTOCZY: Yes.

MR. VOLLMER: It is not clear now what the break-out is going to be.

MR. ROSZTOCZY: The answer to Commissioner

Ahearne's question about whether there are many which might fall into this category, I think that would depend very strongly on what is the implementation date of the rule. If the implementation date of the rule, for example, as an extreme, would stay as June '82, then we would expect that there would be a large number of this equipment.

If the implementation date is something like the second refueling after March '82, which in some cases carries it out, I think, to '85 or so, then by that time all of this could be resolved because if there is diligent work on this then within a year's or two's time it all can be resolved.

COMMISSIONER BRADFORD: Let's see, you say that if it were June of '82, a substantial amount of equipment would have failed the sequence testing.

CHAIRMAN PALLADINO: Or would not have completed it.

COMMISSIONER BRADFORD: Or not have completed it. Let's see, we can leave out the not have completed it, though. Are you saying there would be a significant amount which would fail the testing, without our understanding whether there was an explanation.

MR. ROSZTOCZY: We do not have full account of that because when somebody is performing tests on his own we do not know what is the excact status and what happened.

What we do know is that we selected a certain number of tests that we are following through th test series. In those cases we are learning about the details of the tests that normally we would not know.

COMMISSIONER BRADFORD: Stop a minute. Are you saying that the licensees do not tell you when a piece of equipment that they have in place and in their plants that is safety related fails a test?

MR. ROSZTOCZY: That's correct.

COMMISSIONER BRADFORD: That does not sound as it should be.

CHAIRMAN PALLADINO: Say that again, Pete, would you?

COMMISSIONER BRADFORD: Apparently the licensees are not obliged to report when safety related equipment they have in place fails a test unless it is in one of the programs that the staff is tracking. I must say, that does not sound like what I think should happen.

MR. ROSZTOCZY: The requirements are that they have to report it only after they completed an evaluation and they arrive at the conclusion that they have a significant safety issue.

Now, in cases like this when it fails, let's say, a given test, they do not know at the time whether it was the result of the way how the test was conducted, the

special sample which was used, and many other possibilities.

So, normally they initiate an investigation to find out why. They make sometimes some changes in the design, sometimes they correct the testing method, sometimes they do something differently, and they normally go on with it.

By the time they finished the testing they will know it. By that time they also have some equipment which is usually qualified, and then they let us know. But we do not know it when the first occurrence happens.

MR. AGGARWAL: For clarity I would like to submit to you that when the Commission's memorandum and order was issued in May 1980, the Commission directed the utilities that they should meet the requirement either of the guidelines and NUREG-0588, and if you go back to the NUREG-0588, you do not require the equipment to be qualified for seismic consideration. Those requirements are covered elsewehre.

Now, if you take IEEE-323-1974, minus seismic requirement, then you are really not addressing the question of sequence testing.

CHAIRMAN PALLADINO: You are not what?

MR. AGGARWAL: You are not addressing that question. I just wanted to make that point clear.

CHAIRMAN PALLADINO: You are making clear that you

are not addressing the question.

MR. AGGARWAL: That's right.

CHAIRMAN PALLADINO: That is an important point to clarify, I think.

MR. AGGARWAL: That's right.

Mr. Chairman, at this time I would like to go to the next slide and find out what decisions staff is requesting that be made by the Commission.

Number one decision is whether or not the completion date for the environmental qualification of electric equipment be extended to July 1, 1983, which is Commissoner Bradford's proposal; or keyed to plant refueling outage, which were contained in the Chairman's recommendation.

Basically, they are asking whether you approved Alternatives 2 or 1.

CHAIRMAN PALLADINO: There is another important criterion or point in Alternative 1, and I am not sure if it is also in Altrnative 4, and that is that they must be complete, even though you have a related outage it must be complete, I believe, by November 30, 1985.

MR. AGGARWAL: That is correct.

CHAIRMAN PALLADINO: So, there is a limit somewhere along the line even though it is tied to the second refueling after March 31 of '82.

MR. AGGARWAL: That is correct.

The second decision the Commission is requested to make is whether or not seismic and dynamic qualifications should be included for the plants in the pipeline and the future plants at this time, or be deferred.

Basically they are asking you at this time to either approve or disapprove Alternative 3. If you will accept Alternative 3, implying then that 4 is not acceptable to the Commission, then the staff is proposing that it will go with Alternative 1, or 2 for the environmental qualification and the issue of the seismic and dynamic qualification will be addressed in the advanced notice of rulemaking.

Should the Commission decide to accept Alternative 3, the issue in the advanced notice of rulemaking will be only addressed to the effect of the seismic qualifications as they are applicable to operating plants.

At this time I will discuss the avantages and disadvantages of Alternative 3. The next slide, please.

As was pointed out, that the seismic and dynamic requirement will apply to nuclear power plants whose applications were docketed after October 27, 1971, and will address the issue of seismic qualification of equipment in operating power plants in the advanced notice of the proposed rulemaking.

COMMISSIONER AHEARNE: What is the significance of October 27, '71?

MR. AGGARWAL: This is consistent with the standard review plan, 3.10, which was issued in 1975, and basically it covers all nuclear power plants which are in the pipeline now.

COMMISSIONER AHEARNE: But what happened on October 27, 1971?

MR. ROSZTOCZY: Simply, there was this new criteria which was issued in '75. So, there was a question to which plants it should be applied, and this is the dividing line. It says, it applies to all of those plants whose construction permit was filed after '72.

MR. AGGARWAL: I think that date is actually October 27, '72, I just noted there is an error.

COMMISSIONER AHEARNE: But still, was there something unique that happened on that day?

MR. ROSZTOCZY: No, it is just an arbitrary date.

MR. VOLLMER: It is probably called codified staff practice in terms of implementation of that particular standard.

CHAIRMAN PALLADINO: You are missing something significant.

MR. ROSS: Apparently it was the issuance of IEEE-344-71.

CHAIRMAN PALLADINO: That may have been.

MR. ROSS: And it was subsequently adopted.

CHAIRMAN PALLADINO: I think somewhere in your write-up you may have that.

COMMISSIONER BRADFORD: But still, why not just all plants?

MR. AGGARWAL: That question, why not all the plants?

COMMISSIONER BRADFORD: Yes.

MR. AGGARWAL: That is the Alternative 4.

COMMISSIONER BRADFORD: I have forgotten just how you put it, but it had sort of an interesting ring to it that the staff would reluctantly comply with Alternative 3. I had the impression Alternative 4 would provoke a large-scale mutiny.

(Laughter.)

COMMISSIONER BRADFORD: What is it about Alternative 4 that is so distasteful?

MR. AGGARWAL: I will, Commissioner Bradford, in a second when I come to Alternative 4. Is that all right? Thank you.

Considering the advantages of Alternative 3, number one is the requirements in the national standards existed since 1971, and there had been voluntary commitments to the IEEE-44-71, as well as 344-75 for the nuclear power

plants which are currently under review.

Therefore we see that there will be a minimum impact on the industry resources in terms of financial and manpower.

COMMISSIONER AHEARNE: Is that "will be" or "should be?"

MR. AGGARWAL: Should be.

COMMISSIONER AHEARNE: The distinction being, to what extent the voluntary commitments have then been translated into following up on the seismic requirements.

MR. AGGARWAL: You rightly put it, I meant "should be."

CHAIRMAN PALLADINO: You were talking about the seismic qualification of electrical equipment.

MR. AGGARWAL: That is correct, sir. The advantage 2 is that this is again consistent with the current NRC practice and therefore will have minimal impact on the NRC staff.

Three is the level of confidence will be enhanced for the nuclear power plants under review.

Four, the backfitting for the operating plants, if needed, will be more firmly justified based on the capabilities of testing labs, the cost of testing, and benefits of testing to reduce risks, namely, it will have a strong value-impact statement.

Finally, deficiencies which are detected during partial backfitting can be corrected as well at operating plants, if applicable.

The disadvantages that we see are the delayed publication of backfitting requirement for operating plants; and number two, the essential equipment may not operate during earthquakes in the operating power plants. We will not have that level of confidence.

CHAIRMAN PALLADINO: I did not understand that last disadvantage.

COMMISSIONER BRADFORD: That is the one thing on the slide I did understand.

(Laughter.)

CHAIRMAN PALLADINO: I did not understand what you were trying to tell me. You are saying that because the backfitting is delayed that we may not have essential equipment operating during earthquakes?

Or are you saying, if you follow this rule you might have it?

MR. AGGARWAL: We will not have the level of confidence at this time that in the event of a seismic event, that the essential equipment will survive.

COMMISSIONER AHEARNE: This is a disadvantage, this over Alternative 4.

MR. DIRCKS: If you go with Alternative 3, it

excludes that.

MR. AGGARWAL: That's right, that is correct.

CHAIRMAN PALLADINO: I did not catch that.

MR. AGGARWAL: In comparison, that is correct.

MR. VOLLMER: By adopting Option 4 we will not immediately have any confidence, either.

(Laughter.)

MR. AGGARWAL: That's correct.

CHAIRMAN PALLADINO: Well, now, on this one you implied that you have done your value impacts and you are quite confident of them; is that right?

MR. AGGARWAL: With the submission that there will be no impact.

CHAIRMAN PALLADINO: I do not see that.

MR. DIRCKS: We talked about it today, on Alternative 3, would you say the costs are substantial if you go into a backfitting policy. The risk that you intend to deal with in an ill-defined risk right now.

So, if you can reduce it incrementally by any amount and the cost is small, that sort of lets you make a decision without too much cost. If you say, let's backfit, then you have substantial cost but you have not really defined the risk.

CHAIRMAN PALLADINO: So, that tells me you are not ready to make a value impact statement.

MR. DIRCKS: On Alternative 4.

CHAIRMAN PALLADINO: No, it sounds to me like you are not ready on Alternative 3.

CHAIRMAN PALLADINO: Alternative 3, essentially that is going on right now, the industry is voluntarily going along with it and because the costs right now are -- I can't say minimal, but they are not substantial.

CHAIRMAN PALLADINO: I thought they would be more substantial in an operating plant than in one that is not built yet.

MR. VOLLMER: He says we are licensing plants to these.

COMMISSIONER AHEARNE: Plants that are not yet licensed.

MR. VOLLMER: They are in the licensing pipeline.

MR. DIRCKS: These are plants in the licensing process.

COMMISSIONER BRADFORD: But let's see, some of them are probably in operation, no, the construction permits? OK, maybe not if CP was docketed after --

COMMISSIONER AHEARNE: 1972.

MR. AGGARWAL: I have a list here of all the plants which are pending for license review, and it would appear that they are not covered.

COMMISSIONER AHEARNE: I see.

CHAIRMAN PALLADINO: Satish, you recommended one over three, can you tell us why?

MR. AGGARWAL: The staff recommendation No. 1 is based on, this is what you asked for.

(Laughter.)

MR. AGGARWAL: I tried to give you a simple answer.

CHAIRMAN PALLADINO: That is an honest answer, but I was hoping for a more objective answer. The reason I asked for it was related to what we were discussing in the way timing was being established. When I asked for that I did not address this particular issue. So, if you were to consider it more objectively --

COMMISSIONER BRADFORD: Just assume I asked for it.

CHAIRMAN PALLADINO: What?

COMMISSIONER BRADFORD: Just assume I asked for Alternative 1.

(Laughter.)

CHAIRMAN PALLADINO: Alternative 1, when I raised the question, was intended to address the timing of implementation.

MR. DIRCKS: Let's take one and two, they are in substance the same, the dates differ. I think we are recommending the substance of one or two because it essentially incorporates what the Commission already decided on in May 1980.

What we were faced with was to also get a decision from the Commission on the date and we found it very hard to deal with the date without some substance on which to attach that date. So, one or two is really there to get a decision made on the date.

CHAIRMAN PALLADINO: I understand.

COMMISSIONER BRADFORD: Let me ask a question about the interplay, though, between one and three. If we approve one or two without doing what would be part of three or four, then what is the likelihood that somewhere in a few years after the seismic requiremewnts have been clearly defined, some of the equipment that has been installed specifically to comply with Alternative 1 will have to be taken out and replaced again because of a changed seismic standard?

MR. AGGARWAL: Commissioner Bradford, that question refers to the operating plants now, or the plants in the pipeline?

COMMISSIONER BRADFORD: Well, both, I guess. If the seismic program ever takes on a backfit cast then it would apply, I take it, to all plants, even if it is just done in Alternative 3.

MR. DIRCKS: I think what we have, we are operating, really, under Alternatives 1 and 2 right now, that is the Commission order.

COMMISSIONER BRADFORD: Right.

MR. DIRCKS: And we are really operating under Alternative 1 and 2, plus 3 because that is staff practice right now. We are applying seismic to the new licenses.

So, you are not really faced with that issue until you come to Alternative 4, that is the backfit issue.

COMMISSIONER BRADFORD: So perhaps what you are saying then is that if the Commission wants to backfit seismic qualification to electrical equipment in the operating plants, then it may have to pause and think again about its deadlines on the rest of the equipment qualification program because we might be in a situation of turning equipment over in just a couple of years on the basis of a changed standard.

MR. DIRCKS: The more complex issue is that more factors are introduced into it and it is much more complicated than one, two, or even three.

CHAIRMAN PALLADINO: May I ask a question? With regard to Alternative 3, what sort of scheduling time do you have for implementation of equipment?

MR. AGGARWAL: As I pointed out earlier, the difference is only the seismic and dynamic qualification, the difference between Alternatives 1 and 2 taken together, as compared to three. We are covering only the plants which are in the pipeline and the future plants. Therefore, the

implementation dates for the environmental qualification will remain as they are for Alternative 1.

Now, with regard to seismic and dynamic qualification, this is a condition for the licensees to get the OL, they will be told to meet the requirement of this rule.

CHAIRMAN PALLADINO: But so far as the operating plants, not counting the seismic and dynamic, you would still have the dates that are indicated in Alternative 1?

MR. AGGARWAL: Or two.

CHAIRMAN PALLADINO: Oh, I see. You are still leaving that --

MR. AGGARWAL: That is correct, sir.

CHAIRMAN PALLADINO: So, it is possible for one to select a combination of one and two, and then three as well.

MR. AGGARWAL: That is correct, sir.

Mr. Chairman, let me now turn over to Alternative 4, which basically covers now the seismic and dynamic qualification to all nuclear power plants.

The advantages, of course, are that NRC seismic requirements are made known to the licensees at one time.

Number two, that backfitting has potential for detection of significant deficiencies in older equipment and effecting timely corrections.

The disadvantages are, number one, complete

value/impact information is not available. Cost of backfitting is totally unknown. I estimated in the viewgraph anywhere between $.2 to to one billion dollars. Only recently it was pointed out to me that it could be $25 million per plant.

It may involve additional structure analysis to specify seismic input levels.

Number two, that safety benefits are unknown, and the risk analysis is in an early stage. And the most important thing is that seismic qualification involves the whole plant and electrical equipment is only one part.

COMMISSIONER BRADFORD: Let's see, I am not sure which way that cuts. Just to pick a plant out of the air, if we wanted these standards to apply to Diablo Canyon, we would have to do it via Alternative 4.

MR. AGGARWAL: Yes, provided at the time of granting an OL -- I am not aware as to what the commitment was on the seismic and dynamic qualifications. If they committed to the requirement of IEEE-323-74 and 344-75, then you don't have any problem.

COMMISSIONER BRADFORD: As top that particular plant.

COMMISSIONER BRADFORD: That's right.

MR. VOLLMER: They are sort of half-way there. In some areas they did not fully meet those, were not able to

meet those, in some areas they did. So, they are part-way there.

But I think the important part of Criterian 4, it seems to me, is in two areas. One, as Satish has mentioned, we are talking about right now a somewhat ill-defined risk for two reasons. One, we have not gone back to the old plants across the board and looked at whether or not we want to change the site-specific spectra seismic requirements for those plants as we have done in the SEP plants.

So, we have a basic input parameter that I think we have to look at first. Secondly, we have not really quantified very well seismic risk itself in terms of the risk of the earthquake and its attendant risk on the whole plant.

We have a number of programs going in this area but I do not think we have come far enough to make a good decision on cost-benefit in terms of backfitting.

Notwithstanding that, the requirement has been there for the general design criteria that the plant's essential equipment must meet seismic requirements. In the SEP plants we looked at it more on a systems basis rather than a component basis to see that things were tied down and by judgment that the plant seems to be constructed and hung together to meet the seismic needs. But the individual components is still in this very open area in the older

plants.

CHAIRMAN PALLADINO: You were still going through Alternative 4.

MR. AGGARWAL: No, sir, I am through at this time.

CHAIRMAN PALLADINO: Going back to Alternative 3, you are talking about those plants whose applications for construction permits were docketed after October 27, 1977.

MR. AGGARWAL: That is correct, sir.

CHAIRMAN PALLADINO: And you say you have been working with those. There are none of those plants that are now so complete that this would give an undue problem to them?

MR. AGGARWAL: Sir, just for my own understanding I personally went through the FSAR of all nuclear power plants which are currently under review, and I found that many of them are committed to IEEE-323-71 or 323-74.

In the area of seismic qualification, many of them are committed to either IEEE-344-75. The history gets quite mixed up because in many areas some of the plants can be qualified to one standard, and others may be only to the '71 version.

So, my submission to you is that of course they are committing themselves to the standards which are available at this time and they will see no impact if Alternative 3 is approved by the Commission.

CHAIRMAN PALLADINO: None of the plants will see an impact?

MR. AGGARWAL: Which are currently under review.

CHAIRMAN PALLADINO: That does not include them all.

COMMISSIONER BRADFORD: But it also assumes, I think, that they put in the plants what they committed to put in the plants. It seems to me I remember this issue coming up before when the first connectors failed the test back in '77, the question arose as to whether that was a violation of commitments, and the staff went back and concluded that in fact those commitments were so infirm in many cases that there was no violation of them, and that the licensee had not in fact carried them out.

MR. VOLLMER: We do send an audit team out for plants that we are currently licensing to review seismic qualifications, an audit team much the same as we do on environmental qualification. So, we do look at how well they have met their commitments in these areas.

COMMISSIONER AHEARNE: On seismic, when that team goes out, what kind of a review are they doing, against what standards?

MR. VOLLMER: The standards committed to in the FSAR, the type of seismic testing, the 344 standard, the earlier or the later version.

CHAIRMAN PALLADINO: They only have the meet the one that they are designed to? This is what I am trying to understand. I am not sure I understand the value impact statemewnt yet.

COMMISSIONER AHEARNE: So, let me take an example. Let us suppose you have - I imagine some of these from the way you said it are committed to meeting 344-75.

MR. VOLLMER: Do we have any right now in the pipeline?

MR. ROSZTOCZY: There ae some under review, none of them came up for licensing yet. So, they will be coming to you maybe a year from now.

COMMISSIONER AHEARNE: Under review.

MR. ROSZTOCZY: Yes.

COMMISSIONER AHEARNE: Now that, my understanding from reading it, is the specific sequence test, and you are saying that your review team will examine whether they have data to show that the equipment that they have put in follows the sequential test with the aging, the seismic, and the accident conditions; is that correct?

MR. VOLLMER: For the plants that are committed to that, that is correct.

COMMISSIONER AHEARNE: And you are saying that you are now applying that. So, are you giving any waivers?

MR. ROSZTOCZY: No. The plant is under review.

The seismic audit has not taken place yet. We had meetings with the licensees we have discussed the requirements. They are now in the testing phase and they are putting the documentation together. By the time of the audit - whenever the audit is, let's say it is next summer - by the time of the audit we would expect to see that, yes.

MR. VOLLMER: But for the plants that are committed to meet lesser requirements, the audit team would look to see that they indeed have documentation to meet the lesser requirement.

CHAIRMAN PALLADINO: Finish this question. I thought earlier you said that there was no equipment that could meet, that there was very little equipment that could meet the sequence qualification requirement.

So, if we are imposing it on plants that are coming up for operating licensing and there is very little equipment that can meet that, how can we ever get them licensed then without a waiver or some other requirement?

MR. VOLLMER: I don't recall if I quantified the amount of the equipment. But I think from Comanche Peak on it needs to meet the Category 1 requirements IEEE-323.

CHAIRMAN PALLADINO: During the sequencing testing?

MR. VOLLMER: That's correct.

CHAIRMAN PALLADINO: Then I misunderstood the answer.

MR. VOLLMER: I think we are talking about replacement parts.

COMMISSIONER AHEARNE: There is a distinction between "needs to meet" and "can meet."

MR. VOLLMER: In two we are talking about replacemewnt parts and how many parts are really available to replace stuff in current operating plants.

CHAIRMAN PALLADINO: But if the plant is not yet operated, what is it supposed to meet, the sequencing?

MR. VOLLMER: The current ones we are licensing today, they are committed NUREG-0580, Category 2, which does not have sequencing.

CHAIRMAN PALLADINO: So, sequencing is not required for initial equipment right now.

MR. VOLLMER: Not for initial equipment right now.

COMMISSIONER AHEARNE: You are confusing me.

CHAIRMAN PALLADINO: I am very confused at this point because I started out on one train, although this was a valuable diversion. I was trying to find out whether or not -- I was leaning towards three if I could understand that we had completed our value impact. But I am not clear whether you have looked at all the plants even to see if you covered the whole spectrum.

COMMISSIONER AHEARNE: I thought you said that the plants currently under licensing review are being held to

the standards which are appropriate, IEEE, whether it is 323-74 or 344-71-75.

Now, that is different than 0588. So, which is it that they are being held to?

MR. ROSZTOCZY: Let me try to take just two examples, two plants. One plant which is currently being licensed and the applicable standards are 323-1971 and 3-44-1971. So, they are ordered standards in both cases.

For those plants in the environmental area we are enforcing basically the NUREG-0588 requirement as it is deemed appropriate by the Commission order.

And for the seismic area we are enforcing the '71 version of the standard with a few additional items which are spelled out in the 1975 version of the Standard Review Plan. The Standard Review Plan said, use the '71 standard but keep your eyes open for the following and have a few more versions.

So, we are enforcing the Standard Review Plan which is six years old, and referencing the '71 standard. Now, when we do this the basic requirement is the general criteria that the equipment has to work under these conditions.

So, what we are doing is, we are saying, we will not send you back if you have done the testing exactly how today's standard would require it. Instead, give us the

information that you have and the form how you generated it. We acknowledge thay they ran these tests before the new standard was passed.

Then we take the available information which includes some testing, it might include some analysis which extends the testing; it might include some other evaluation, and if this collection of information together convinces the licensee and convinces us that there is a good likelihood that the equipment would work under the accident condition, then we pass them.

So, there is more engineering judgment involved in this type of an approach.

COMMISSIONER AHEARNE: That is the double '71 standard.

MR. ROSZTOCZY: This double '71. Now, let me go now to the double new standard which would be the '75 version of 323 and the '74 version of 344. Those plants ae the ones which are in an FSAR preview but they have not yet been audited.

COMMISSIONER AHEARNE: I was going to ask you to go back one step on the plants where we are right now, say this year, in the process or have licenses. But go ahead.

MR. ROSZTOCZY: So, if I take the ones which are clearly under both new standards, those plants, I notice, they have known it since '75, and they are planning on

this. The equipment has been tested or is in the process of being tested.

Now, we have heard some remarks from them that some of them might not be on time and some of the testing might be finished somewhat later. So, maybe next summer when we go out for the audit there will be still a number of tests on-going as opposed to being finished, but hopefully they will be finished before the plant starts operataing.

COMMISSIONER AHEARNE: Zoltan, clearly if the answer to, is there any replacement equipment available, is basically, no, then the answer has to be that right now there is no installation equipment available. So, at that stage the tests, sufficient tests are completed to prove that equipment can be installed to meet those two standards must be the same time, the replacement equipment is going to be available to meet those two standards.

CHAIRMAN PALLADINO: They can waive it.

MR. ROSZTOCZY: If the equipment that is being tested for the new plant is equally useful as a replacement for a new plant then, yes, that is exactly where we put it. In some cases it is somewhat different in that an existing plant might elect to try to qualify their equipment from which he has twenty of them in his plant and twenty more on the shelf, rather than worry about something that the new plant is using. So, there are those differences. But

otherwise, yes.

Now, going back to the ones, all the plants up until now that you have seen going through on the OL licensing process fall into the first category, the old standard on both counts.

COMMISSIONER AHEARNE: Both old standards.

MR. ROSZTOCZY: Both old standards.

COMMISSIONER AHEARNE: So that you are saying the break point to pick up either 344-75 or 323-74 comes after any plant that we have seen so far.

MR. AGGARWAL: That's correct.

MR. DIRCKS: I think this discussion shows you why wer were advocating the Commission for decisionmaking purpose go to Alternative 1 and 2.

CHAIRMAN PALLADINO: That is the way I am leaning now, but I was willing to consider going toward three with a combination of one.

MR. DIRCKS: We were not advocating three.

CHAIRMAN PALLADINO: Well, what I was trying to determine was, are there some plants that you have not looked at yet who are so far along, such that when the requirementsd have to be met it could result in backfitting, in which case I wold say we have not completed our value impact.

COMMISSIONER AHEARNE: I guess where I am on that

particular issue is that, had I not gone through 80-20 I would be on three. Having gone through 80-20, I am at the moment on one with maybe another two or three weeks of discussion and understanding what it is that we are actually ending up requiring and what is available. When what we are requiring will become available, I might get to three.

But at the moment I have the somewhat sense of having been here before and not being too comfortable.

COMMISSIONER BRADFORD: Is there an interplay between any of these alternatives and what you will be doing on mechanical qualification? That is, if down the road there would have to be large-scale replacements of a particular piece of mechanical equipment, would that carry with it any implications for electrical equipment associated with that piece of mechanical equipment?

MR. ROSZTOCZY: It could, it could. In many cases it probably would. In some cases it would. An example is, let's take a valve. Right now we are looking, under the electrical equipment, we are looking at the valve actuator and we are seeing on that that it will get an appropriate signal and the electrical part is going to work.

But we are stopping right there and we are not looking at whether the torque generated by the operator will be enough to close the valve. If we find out in a mechanical equipment review, whenever it comes on, that it

was not the appropriate torque, then one possibility is that we have to get rid of this actuator and get another actuator in place instead, which obviously then will have to be qualified.

COMMISSIONER BRADFORD: So, it is another part of the same concern I had before on seismic, that if that same acatuator has just been replaced a year or two before to meet the electrical equipment qualification requirements, there is a certain amount of waste involved in checking it out again as a result of the mechanical equipment qualification program.

COMMISSIONER AHEARNE: That is certainly true. There you have a conflicting need of moving ahead versus moving ahead when you are sure everything --

COMMISSIONER BRADFORD: Well, it is the same problem with tossing in the seismic requirement if it were backfitted.

CHAIRMAN PALLADINO: Well, my general feeling is that if we can clearly identify an area that encompasses both the seismic-dynamic and electrical qualifications, that would prevent leap-frogging, doing something, then coming back and checking to see if you have to replace it.

I am not sure we are ready even on Alternative 3, as well a I understand it, proceeding in that direction. If I thought it was all clear I would be inclined to support

three.

MR. AGGARWAL: Mr. Chairman, all I can point out at this time, that these were the requirements and we are trying, or attempting to enforce at this time the Regulatory Guide 1.100 that was issued sometime in the area of 1977 and 1980, and endorsing IEEE-344-1975

One way to find out what the reaction will be, as we are suggesting, it calls for public comment. We will know what impact it will have. If we find the impact is substantially significant, in the final rule we can always take seismic and dynamic requirements out of it.

CHAIRMAN PALLADINO: Yes, except that things do not usually work that way. The proposed rule tends to have an inertia or momentum of its own.

MR. AGGARWAL: You are correct, sir.

MR. ROSZTOCZY: Mr. Chairman, that is a very interesting and important question, when are we ready to send some of these out. That is an area where I hold somewhat different views, I think, than what you have heard presented as the staff position. So, let me just outline very briefly what my views are.

I may be a little bit selfish, I am looking at it from my own viewpoint. My main responsibility is to conduct these reviews on NRC's part and see to it that the industry is performing its reviews, and they are doing it in an

efficient way and with the least amount of waste, if you wish, and the least amount of cost associated with it.

What we are doing now in this step is just sending it all out for public comment. This is not legislating it, this is just sending it out for public comment.

There is nothing against gathering more information during the public comment period. We can strengthen some of our own views and some of our understanding during the public comment period that can go on parallel, but it does not necessarily have to precede this.

We feel that we need the comments of the industry as soon as possible. We have not asked for comments in this area in any formal form from them. As you know, we have received a number of them, unsolicited comments in terms of letters which in a sense I could say they were complaining about one or another aspect of equipment qualification.

When we put those together it appears to us that the best would be to put all of our thinking on what might be in that rule out on the table as soon as possible and ask for their comments. If the comments come back along the line that they indicate that it would be better if some of these are being implemented on a different schedule than another, then we still could implement it in such a manner.

At the same time, if the comments would come back

and indicate that there is a definite advantage if they do these reviews in a coordinated manner rather than reviews in three separate steps, then we could put out one implementation schedule.

So, by putting it forward now, saying that this is the way how we would go if we do everything, in a sense invite more comment than if we put only a portion of it there and keep the rest in our pocket.

In terms of the risk associated, I think Satish addressed that, he limited it to seismic. It is not limited to seismic, it equally applies for the accident conditions because we do not know yet if it works on that evaporator, and we do not know yet if the dynamic - which are the accident loads - if it can take the accident loads, the flow created by the accident.

So, our goal is to get as soon as possible to the point that we can say the safety-related equipment, essential equipment, will operate under accident conditions without any reservation, without saying that it works for the environment but it does not work for the flow conditions that are expected. To do this would kind of require to look at the whole picture together.

Therefore, one other problem which is maybe somewhat of a legalistic problem if you wish, but the same way how you have picked up in this discussion that there is

a problem with the justification that the rule issued as such, you postpone it, the same way there is a problem - and I think it probably applies to one, two, and three of this proposal - there is a conflict between those requirements, how they are put forward, and the Standard Review Plan which is in effect since 1975.

We are already enforcing this requirement for the plants who started before the date, and now putting out a rule which says that it does not need to be enforced for those, it creates the question now when our review team goes out next week, on what basis are they doing their seismic audit if there is no seismic requirement for this plant?

COMMISSIONER AHEARNE: You mean that with the absence of the rule now they have not been doing anything?

MR. ROSZTOCZY: No, we are doing it right now, but if you put out a rule --

COMMISSIONER AHEARNE: That says --

MR. ROSZTOCZY: It says that it is not applicable for those plants.

COMMISSIONER AHEARNE: What the rule, I thought, discussion was, that the seismic issue was not addressed in this rule.

MR. VOLLMER: That's right.

CHAIRMAN PALLADINO: I thought in Version 3 it was.

MR. ROSZTOCZY: In Version 3 it is, and it is

limited only to plants after a certain date, and we are right now reviewing plants before that date and enforcing those exactly same requirements that you are putting out with a different date of enforcement.

So, if I would be an applicant and I see that the proposed rule should not apply to me, then I certainly would ask myself, why am I spending the $5 or $10 million needed for my seismic qualification.

COMMISSIONER AHEARNE: But at the moment the situation at least that I am in is that there are some times that I feel that we have to push the staff to go in a direction, and sometimes we act as brakes on the staff in going in a direction.

At the moment I just have not seen enough information with regard to what we are requiring on seismic qualification and why we are requiring it, what are the criteria that we are going to use, and what the impact of that requirement is, to feel comfortable with proposing No. 3

Now, Zoltan, you make a good point. As you said, you also make the point that we are just putting it out, proposing it for comment. But one of the reasons, I guess, that the proposed rule goes out after the Commission addresses it is that it is more than just the staff putting out for proposed comment. We are endorsing it in some way. We are saying, "Yes, this is essentially the direction we

believe we want the Commission to go."

At least for myself, I just do not have enough information yet to reach the conclusion that that is the direction I want to go.

COMMISSIONER BRADFORD: Well, that need not be what the comment process is about, it depends a lot on how you phrase it. I mean, it is one thing to say, "Here is what the rule will look like unless we learn something terribly different," and another to say, "The Commission is considering Alternatives A and B.

COMMISSIONER AHEARNE: Yes, or you can put out an advance notice saying, "Here is an issue that we want to resolve."

COMMISSIONER BRADFORD: That is also true.

CHAIRMAN PALLADINO: Can I ask a question? If I understood you correctly, if your opinion would be to go out with Alternative 3 for comment, did I understand that correctly?

MR. ROSZTOCZY: From these alternatives I would follow four.

CHAIRMAN PALLADINO: You would follow four.

COMMISSIONER AHEARNE: Yes, that is consistent.

CHAIRMAN PALLADINO: I am not sure we are ready for four, but I thought we might be ready for three.

MR. ROSZTOCZY: I think that is an important

question. Commissioner Ahearne asked about the criteria, what criteria would we use since he has not had a chance to look at it. The criteria is rather clear, this is the 1975 criteria as is set out in the Standard Review Plan, and we could give you a briefing on that any time. So, that part, I think, is clear.

COMMISSIONER AHEARNE: As I said, it may only take a couple of weeks of discussion. My point was, right at this moment I have not had enough information to reach that decision that that is the correct direction.

MR. AGGARWAL: Mr. Chairman, we at this time have two viewgraphs that, if the time permits, I would present to you as to how the seismic requirements have been imposed by NRC over the last 10, 15 years.

CHAIRMAN PALLADINO: This is with regard to?

MR. AGGARWAL: Alternative 3 or 4.

COMMISSIONER BRADFORD: I have a couple of questions I want to ask --

COMMISSIONER AHEARNE: Me too, I have some questions.

COMMISSIONER BRADFORD: -- that do not focus especially on three or four.

Let me ask, I had earlier on proposed not just the July '83 date, but also that there be some effort made to bring the sort of qualification by analysis process to a

clearly defined end. That aspect of my proposal seems to have gotten dropped out even of the alternative that is labeled as mine.

Essentially, the proposition was that after a certian point in time - and I think I picked the middle of next summer - the licensees would be required to designate some equipment that they considered qualified and the rest was going to either be tested or replaced. Then the staff could begin to inspect that which was said to be qualified. Then, whatever deadline the Commission picked, mine or yours, would apply to the testing and replacement of the rest.

That seems just to have gotten lost along the way, and I wondered whether there were clearcut objections to it, or whether that was an acceptable way to proceed.

MR. AGGARWAL: Commissioner Bradford, the Alternative 2 which you have before you basically is what you asked for. It had the point you raised just now. If I might just bring to your attention page 10.

COMMISSIONER BRADFORD: Well, I am sure I did not see it. When you were outlining it, though, you did say that the only difference between two and one was the enforcement date.

MR. AGGARWAL: That is correct. The slight modification in the language which is paragraph (g) of your

Alternative 2 had required that each holder of an operating license - are we all on the same page? It is page No. 10, Enclosure A of the Alternative 2, and the paragraph is "g", "g" like in Gloria.

Each holder of an operating license issued prior to the effective date of this rule must identify the electric equipment already qualified and submit a schedule for testing or replacement of the electric equipment. This schedule must establish a goal of final environmental qualification by July 1, 1983.

So, basically your proposal that the utilities should commit themselves is right there.

COMMISSIONER BRADFORD: But when does the commitment have to be made by?

MR. AGGARWAL: Within 90 days after the effective date of this rule.

COMMISSIONER BRADFORD: And as far as you all are concerned, is that method of approach to the problem a sound one?

MR. AGGARWAL: My personal views are that I have no problemsf with that, but let NRR address that question.

COMMISSIONER BRADFORD: See, the concern I have about the other approach is that if the process of analysis goes on out into - say we accept the deadlines in Alternative 1 - if the process of analysis goes on out into

'82 and '83 and then the licensee says, "Well, actually what I have to do is test," and the testing programs run into the kinds of delays that they have up to now, that is automatically going to take the licensee beyond the deadlines that are contemplated.

So, it seems to me that even to meet the deadlines in Alternative 1 there has got to be some earlier end to the time in which further analysis can be going on, and then there has to either be a commitment to test and replace or a statement that the equipment is considered qualified.

MR. VOLLMER: I think that we would consider this to be a viable approach. It is sort of along the lines of our proposal to you several weeks ago because in that it indicated that after a specific date - I think July of '83 - the licensee would have to simply get an exemption for the equipment that he wanted to go beyond that date.

So, that would imply he had to identify it and tell us what he was going to do with it. So, I think it could be an approach that would work.

CHAIRMAN PALLADINO: There is an important difference I had not picked up between the two.

COMMISSIONER BRADFORD: Well, frankly, I had not picked it up as even being included in two, and one of the reasons, I guess, was the it had been indicated that the only difference was in the deadlines.

CHAIRMAN PALLADINO: Yes.

COMMISSIONER BRADFORD: When you say "qualified," I gather there is some difference of view within the staff as to whether qualified equipment has to be qualified to bring the plant all the way to cold shutdown or whether it is sufficient to bring it to hot shutdown. Can you talk about that?

MR. VOLLMER: Many of the operating plants do not have as part of their licensing basis the requirement to have safety-grade equipment bring them to the cold shutdown condition, only some of the later plants do have that requirement.

The application of environmental qualification to the Commission Order, we have been using safety-related equipment as our basis on which we are focusing, and that would leave out some plants, or most of the old plants, for having the qualification to reach cold shutdown.

We did send out a clarification on that and in that clarification we asked all plants to submit information on the equipment that they needed to achieve cold shutdown, at least one train, and the qualification thereof.

But it is left open now excactly what we do with it because, again, it is not part of the real licensing basis for those plants.

COMMISSIONER BRADFORD: But the licensing basis

aside, I take it it would not be all right to have a plant stay at hot shutdown indefinitely, or would it? I guess I just do not know.

MR. VOLLMER: Well, an argument can be made that if the equipment necessary for hot shutdown -- you could certainly exist there for a long period of time and then one could look for alternate means to achieve cold shutdown and test to see if the equipment will work, and then proceed on that basis.

I do not think a priori without looking at it that following an accident the any level of heat we are talking about, if the plant decays and you find heat rejection methods, the plant would not stay at high temperature indefinitely. I think it would have to be on a case-by-case basis to make a safety story for requiring getting to cold shutdown which is like in a boiling water reactor below the 212 degrees.

MR. CASE: I guess a more authoritative answer to that would be the fact that it was considered sensibly by the staff pre-TMI and th staff eventually agreed on the position for future plants from that date, which was several years ago, that they ought to be required to have safety equipment in relation to cold shutdown.

As for the plants before that time, the decision of the "Ratchet Committee" at the time was they ought to be

looked at on a case-by-case basis to determine how much if any equipment they ought to have in order to reach cold shutdown. But then came TMI and that decision was never implemented.

COMMISSIONER BRADFORD: I see. So, what does that mean in terms of post -- is that OL's post '77, or does the timing work some other way?

MR. CASE: We were presumably talking about CPs, we would apply the new position to the CPs.

COMMISSIONER BRADFORD: So, none of them, I see.

MR. CASE: I think it was that way.

MR. VOLLMER: I do not think it is that bad, but I do not know exactly what the dates are.

MR. ROSZTOCZY: I do not know what is the exact cut-off date, but I am under the impression that all the plants going through on licensing now are definitely required to go to cold shutdown. So, it is dated back to these plants, plus a number of them ahead of them.

But if you look at the operating plants, the 70 or so operating plants, I think the majority of those would fall under the hot shutdown being the safe shutdown. Even some of the operating plants are committed to cold shutdown.

COMMISSIONER BRADFORD: Some of the operating plants are committed?

MR. ROSZTOCZY: Some of them are committed, but

the majority of them are not.

COMMISSIONER BRADFORD: I see.

COMMISSIONER AHEARNE: I have a couple of questions, if I could, and since the copy I have marked up happens to be 603, if I could address that one.

If I look on page 7 of Enclosure A, here is, "The applicant or licensee shall prepare a list of all electrical equipment covered by the section and maintain in a central file. This list of equipment must," and I assume these are now the items, it is in addition to. It is more than a list of equipment, these sets of documents must include.

Are these what are required in the order?

MR. AGGARWAL: My answer would be, yes.

MR. ROSZTOCZY: I am not sure exactly where you were reading from. But if it is a safety-related activity --

COMMISSIONER AHEARNE: Page 7, 603, this is out of Document 603, Enclosure A, page 7.

MR. AGGARWAL: Alternative 1 is actually the Commission order.

MR. VOLLMER: Yes, the answer to that is yes, that is part of their text packs.

COMMISSIONER AHEARNE: They are required to maintain this information.

MR. AGGARWAL: That is correct, sir.

MR. VOLLMER: That's right.

COMMISSIONER AHEARNE: What does "integrity requirements" refer to? They have to maintin "its performance characteristics and integrity requirements." What are integrity requirements?

MR. AGGARWAL: Which paragraph are you on?

COMMISSIONER AHEARNE: I am on No. C-1. So, they are in the text packs; what does it mean?

MR. SCHAU: Structural integrity.

COMMISSIONER AHEARNE: For the electrical equipment?

MR. SCHAU: Electrical, essentially all that is done. There are two things, structural integrity and performance integrity.

MR. VOLLMER: I think that would probably relate to such things as transducers and things like that that are in hermetically sealed boxes and things of that nature.

COMMISSIONER AHEARNE: Page 8, down at the bottom, "The equipment must be replaced at the end of its qualified life unless on-going qualification" - etc. - "shows, by artificial aging and type testing."

Now, you have "naturally aged" in a plant and then you also have "artificial aging" and type testing in addition to that.

MR. ROSZTOCZY: You cannot have natural aging in the plant, it would have to be in the plant for four years

or the lifetime of the equipment.

COMMISSIONER AHEARNE: Well, you could have that same piece of equipment in some other plant that is a lot older, that has reached --

MR. ROSZTOCZY: Reached its lifetime, its equivalent lifetime and then tested. That would be acceptable.

COMMISSIONER AHEARNE: That would be acceptable.

MR. ROSZTOCZY: Yes.

COMMISSIONER AHEARNE: You have on page 9 the preclusion for type testing includes the equipment installed prior to May 23, 1980. That is the date, as I recall, that is the date of the order. This is the installation part of that and I think - I guess I am wondering - did you mean installation or did you mean procured?

MR. ROSZTOCZY: We meant installed.

COMMISSIONER AHEARNE: So, even if they had bought it prior to that date and not installed, that did not eliminate that requirement.

MR. ROSZTOCZY: That's correct, and this was a question which has been raised a number of times we met with utility representatives. Our answer was that if somebody has, for example, a large block of equipment which has been purchased ahead of time and they intend to use it in the future, then they should qualify it.

COMMISSIONER AHEARNE: Where I got the question was in going through your latest Reg Guide. It seemed to be that there the cut-off was more procurement.

I guess those are all my questions. If we do go with one of these alternatives, how close is the Reg Guide being ready to go?

MR. AGGARWAL: That will be simultaneously.

COMMISSIONER AHEARNE: I guess you are saying that the Reg Guide is as close as the --

MR. AGGARWAL: That is correct, sir.

CHAIRMAN PALLADINO: I wonder if I might make a few observations and see if I got at least how the opinion stand among three.

I gather it would be desirable if we could with confidence put out a consolidated statement that included all the aspects of qualification of the electrical equipment, including the dynamic loads and the seismic. It would be nice if we could do it for the operating plants as well as for the plants that are coming up for operating licenses, and that would be the Alternative 4.

I gather that on Alternative 4 you still do not feel you have the capability of making a good value-impact assessment for the operating plants.

The difference in going to Alternative 3 was that it was just the new plants.

COMMISSIONER AHEARNE: It does not have dynamic, either.

CHAIRMAN PALLADINO: It does not have dynamic.

MR. AGGARWAL: No, sir, dynamic is included.

COMMISSIONER AHEARNE: It is, seismic and dynamic?

MR. AGGARWAL: Yes, sir.

CHAIRMAN PALLADINO: Well, now, I was trying to lean toward that approach with the dates of requirement No. 1, but I never did get a sense of confidence that we had really looked at all the plants that would be impacted to see whether or not we had made a rather decent value impact.

So, I do not have a sense of confidence there to go with that one. With regard to the date aspects of Nos. 1 and 2, I do think there is value in having dates associated with outages, and so that would make me lean toward No. 1.

There was an aspect in No. 2 that I just have not given enough thought to, and that was the one that Commissioner Bradford has specifically asked about, and that was the testing as a requirement for qualification, as opposed to qualification by analysis. That was a difference I had not caught before and maybe would like to give some attention to.

So, now trying to give the staff some guidance so that we can get closer on this, I was wondering how various Commissioners felt about going with No. 1 timing, as opposed

to No. 2 timing; and then whether or not there is any initial feeling with regard to qualification by testing as opposed to qualification by testing and analysis.

COMMISSIONER AHEARNE: I guess I find it hard to separate those two, I think that they are interrelated and I would lean towards your date but Peter's testing.

CHAIRMAN PALLADINO: All right.

COMMISSIONER BRADFORD: I guess what you are saying is that they can be separated.

COMMISSIONER AHEARNE: I cannot vote on them separately, it has to be joint.

COMMISSIONER BRADFORD: Fair enough.

CHAIRMAN PALLADINO: Do you have any initial feeling, Tom?

COMMISSIONER ROBERTS: Well, like you I would initially think there would be some attracativeness in three, but I share your concerns. I think four is not acceptable to me. I guess I would agree with Commissioner Ahearne.

CHAIRMAN PALLADINO: I incidentally, when I caught that point, I had the inclination to lean in that direction. So, I guess I am saying the same thing.

Well, maybe a point of guidance to the staff is to rewrite 603, Version 1, using the dates but perhaps picking up the wording with regard to testing that is in paragraph

"g" of Version 2.

I do think, though, it is also necessary to clarify the point that was discussed very early about the fact that it does not cover the seismic and dynamic and making it clear. I gather, or at least I gather based on our thinking at the moment, that if that were written that way we might have some agreement.

I do not want to make that judgment, I am just asking. Let me say it the other way, I gather this would be a reasonable basis to guide the staff to the next step.

COMMISSIONER BRADFORD: A couple of points. One, whatever regiment we choose, I would be inclined to require the justifications for continued operation to be on a much tighter schedule than seems to be contemplated.

COMMISSIONER AHEARNE: Len, do you see any reason why it could not be effective the date of the rule?

MR. BICKWIT: The effective date of the rule would be 30 days after the publication of the rule.

COMMISSIONER BRADFORD: I think I would disentangle it from the rule altogether. I would be more inclined to disentangle it from the rule altogether and to say that we have already been through enough on that question, and that anybody who has not met the staff's definition of an adequate submittal or not, is subject to enforcement action, either right away or within 30 days or

something like that.

CHAIRMAN PALLADINO: We get the 30 days because --

COMMISSIONER BRADFORD: No, I am not saying 30 days of the rule, I am saying 30 days from right now.

CHAIRMAN PALLADINO: Thirty days from right now.

COMMISSIONER BRADFORD: Yes.

CHAIRMAN PALLADINO: I would have to see the words and I would have to hear some legal opinion as to whether we have a problem. But certainly, making it effective immediately with the effective date already gives them 30 days notice.

COMMISSIONER AHEARNE: A little more than that, I think. Why do we have to speak to it in the rule at all?

MR. AGGARWAL: That was my question of Commissioner Bradford, if we are confident that everybody has submitted, then perhaps it should exclude the requirement from the rule, any requirement we can only impose --

COMMISSIONER BRADFORD: Am wrong in thinking that we have already required this in a legally enforceable way?

MR. BICKWIT: Have we put it in the licenses?

MR. VOLLMER: No. Several things, they are made aware of our findings with regard to qualification of equipment. They are obligated to assess safety and continued operation.

So, the burden we have put on the licensee to make that judgment. Now, what he has come back to us with in many cases is not what I view as an adequate justification for continued operation. But if the rule continues in either vein, I think it is incumbent on the staff - and we are doing so - to look at that and try to achieve in our own minds if we agree with the current justification for continued operation, whether it comes out in the rule later or not.

CHAIRMAN PALLADINO: When you are putting out a rule does it make mention of the fact we are operating without the ultimate in what we want? Somehow it seems desirable to include in the rule the requirement that the licensee justify continued operation until these things are in force.

So, I would like it in the rule. I do not want to extend the time, but I think you are not hurt if you make it immediately effective because in truth it has been published 30 days in advance. So, if they have any closure to reach they have some time to reach it, and in the meanwhile you are still working with them to try to reach closure.

I am speaking for myself, and I would like to have it in the rule, but I would not mind making it immediately effective and keep it in the rule so it does not get lost as a separate item.

COMMISSIONER AHEARNE: I guess I want to think about that. I am not convinced of the need for it.

COMMISSIONER BRADFORD: Let's see, Len, you have some doubt about enforceability in its present posture?

MR. BICKWIT: I just do not know. My question was whether this requirement is in the licenses.

MR. VOLLMER: No, not as such.

MR. BICKWIT: Under those circumstances I think there is some doubt, although you could remove that doubt by ordering it forthwith and then taking action against that order.

CHAIRMAN PALLADINO: Well, why don't I suggest that it would be included and then, if you do not like it, maybe we will fall back.

COMMISSIONER AHEARNE: Yes.

CHAIRMAN PALLADINO: Any other points?

MR. AGGARWAL: Mr. Chairman, do I understand you want it effective upon publication of the rule, the final rule?

CHAIRMAN PALLADINO: No, upon the effective date of the rule.

MR. AGGARWAL: Thank you.

CHAIRMAN PALLADINO: Any more points?

COMMISSIONER BRADFORD: Well, at least for purposes of seeking comment, I would actually be inclined to

go, I think, with Option 4. The farther out the deadlines get, the more desirable it seems to me to perhaps try to encompass the seismic program as well. If it turns out that the comments tell us that that does not make sense and our own analyses show that the benefits do not outweigh the costs, then it would be possible, of course, to drop it. But that would be where I would come out.

COMMISSIONER AHEARNE: Since there is going to be some turn-around time for that, I think I will ask Bill if he can have some staff come in and explain to me exactly what we are doing in seismic, and what the criteria are that we are applying. Perhaps I can clarify it in my mind.

COMMISSIONER BRADFORD: I guess the other question I have is, do you need anything from us at this point? I gathered from Zoltan at the beginning of the briefing that you did on the mechanical qualification program in order to give that a further boost.

MR. ROSZTOCZY: The program plan that we sent up to you had in it three items, and there was a deadline for them, a program date for them. I think it was something like either September 1 or end of September, and we are planning to issue it to the industry.

The three items, one of them was seismic; the other one was mechanical equipment, and the third one was mild environment. The rule applies to mild environment but

we never provided written guidance on it. We promised written guidance but it was never provided for the industry.

These three are on hold, subject to receiving more guidance from you. This is more part of the program plan than, I would say, the rest; but we would appreciate receiving some guidance on those as soon as possible so we can proceed.

Also, please understand that these are some of the areas where our thinking has changed since the program plan was issued. Let me check with Mr. Vollmer, but I think it is pretty much our position that there is probably no need to go out separate with interim requirements. We probably would like to see an enforcement after a rule is out.

CHAIRMAN PALLADINO: After which rule is out?

MR. VOLLMER: The mechanical. I think what Zoltan is saying is, we will not get to it today, obviously, but we could do one of two things. We could revise our program plan with some of these thoughts and streamline it somewhat, and come down on another day.

On the other hand, we have continued working with industry. We had a number of meetings on a number of these issues and, for example, on mild environment I think we are prepared to go with a position that would meet the objectives of the Commission and not get us too tangled up in the review process.

But as far as mechanical equipment goes, we could provide specific criteria and go forward in terms of the ANR or a proposed rule with mechanical equipment. But we do not see the value, particularly with what we have seen in the environmental qualification of electrical equipment, of interim requirements and things of that nature. We would like to try to get the job well defined and get appropriate deadlines set that we know can be met, and then go proceed on that basis.

CHAIRMAN PALLADINO: Are you confident, or do you have a good feel for the value-impact question on all the rest of the items besides the electrical equipment? It seemed to me like that program could involve quite a bit of cost, both to us and to the utilities. I am not clear as to how much gain in safety we have.

I was wondering if there was some assessment there, perhaps this is even an item that generically we require the review committee to take a look at.

MR. DIRCKS: This subject came up when we had some meetings on it earlier, and it was very enlightening from the point of view how requirements get set around here.

We started probing into this whole thing and we found a lot of the program being driven by IEEE standard 1975, IEEE standard 1974.

COMMISSIONER BRADFORD: Not this program, not the

mechanical one.

MR. DIRCKS: No, the electrical. I am talking about electrical. Then you wonder what drives these IEEE standards. And the healthy part of the momentum comes from the input of staff members serving the standards. Then all of a sudden we are confronted with the IEEE standard and then we issue a Reg Guide and, 'lo and behold, we have some sort of a requirement set without any formal surfacing this thing to the Commission.

I think what we want to do is take a look at the mechanical part of this thing to make sure we are not going down the same trail.

COMMISSIONER BRADFORD: But Bill, what you have initially is a general design criterion which says the stuff is going to work in an accident. So, if it now turns out that there is any substantial reason to believe that the mechanical equipment is not going to work in an accident --

MR. DIRCKS: I think that is true. It's like the Ten Commandments, and then we expand that into a body of law.

(Laughter.)

COMMISSIONER BRADFORD: I neve thought of the Bible as a Reg Guide.

(Laughter.)

CHAIRMAN PALLADINO: I am going to propose with regard to 504, probably it ought to reflect your current

thinking and I think it does deserve some value-impact study.

MR. DIRCKS: We would like to make some effort to go in the calculation of the risk and the cost.

COMMISSIONER AHEARNE: Let me at least respond to one of Zoltan's repeated requests. He has been asked, he said, several times -- at least he was looking for more guidance from the Commission on 504.

My response, Zoltan, is that I after reading the program plan send a series of questions, and whether it is in writing or here at this table, I am looking for some answers before I am for myself prepared to see guidance. There were serious questions on it.

MR. VOLLMER: We had planned on covering some of those.

MR. ROSZTOCZY: Would you like to see a written reply?

COMMISSIONER AHEARNE: Well, all I am saying, one way or the other.

CHAIRMAN PALLADINO: I think it would be valuable to submit them because it might help our own thinking.

COMMISSIONER BRADFORD: Did we all get those questions?

COMMISSIONER AHEARNE: Oh, yes, there was a memo. It was my vote sheet.

COMMISSIONER BRADFORD: Sorry. I did not realize

anyone would have the courage to vote yet.

(Laughter.)

CHAIRMAN PALLADINO: We voted and said, "discussion."

COMMISSIONER AHEARNE: That was September 3rd.

CHAIRMAN PALLADINO: Well, we look forward to a revised 603. Maybe we will have more questions, or maybe we will be able to vote with some modification; and on the 504, a rewrite and further consideration of that.

MR. DIRCKS: We would like, as you know too, we would like to get some answer to this date question because that is a cloud of uncertainty.

CHAIRMAN PALLADINO: Which is that, on the 603?

MR. DIRCKS: Right.

CHAIRMAN PALLADINO: I am not sure how to sense the Commission.

MR. DIRCKS: We will include and hope that the package we sent you will be --

CHAIRMAN PALLADINO: Oh, yes. My proposal was that it be rewritten around Version 1 so far as date is concerned; Version 2 so far as the test versus the analysis. Let's see, there was the other point, oh, yes, the one we discussed earlier.

COMMISSIONER BRADFORD: The business of the --

MR. BICKWIT: Submission of the justification for

interim operation.

CHAIRMAN PALLADINO: Thank you very much. We stand adjourned.

(Whereupon, at 4:40 p.m. the meeting of the Commisson was adjourned.)

NUCLEAR REGULATORY COMMISSION

This is to certify that the attached proceedings before the

_____

in the matter of: COMMISSION MEETING

Date of Proceeding: 11-10-81

Docket Number: _____

Place of Proceeding: Washington, D. C.

were held as herein appears, and that this is the original transcript thereof for the file of the Commission.

M. E. Hansen

Official Reporter (Typed)

M. E. Hansen

Official Reporter (Signature)